



# SAR TEST REPORT

**Applicant** Huawei Technologies Co., Ltd.  
**FCC ID** QISBLA-L29  
**Product** Smart Phone  
**Model** BLA-L29  
**Report No.** RHA1709-0085SAR01R1  
**Issue Date** October 17, 2017

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **IEEE 1528- 2013, ANSI/ IEEE C95.1-1992**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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# 1 Test Laboratory

## 1.1 Notes of the Test Report

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## 1.2 Test facility

### **CNAS (accreditation number: L2264)**

TA Technology (Shanghai) Co., Ltd. has obtained the accreditation of China National Accreditation Service for Conformity Assessment (CNAS).

### **FCC (Designation number: CN1179, Test Firm Registration Number: 446626)**

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

### **IC (recognition number is 8510A)**

TA Technology (Shanghai) Co., Ltd. has been listed by industry Canada to perform electromagnetic emission measurement.

### **VCCI (recognition number is C-4595, T-2154, R-4113, G-10766)**

TA Technology (Shanghai) Co., Ltd. has been listed by industry Japan to perform electromagnetic emission measurement.

### **A2LA (Certificate Number: 3857.01)**

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.



### 1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.  
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### 1.4 Laboratory Environment

|                                                                                                                                                                                                 |                           |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|
| Temperature                                                                                                                                                                                     | Min. = 18°C, Max. = 25 °C |
| Relative humidity                                                                                                                                                                               | Min. = 30%, Max. = 70%    |
| Ground system resistance                                                                                                                                                                        | < 0.5 $\Omega$            |
| Ambient noise is checked and found very low and in compliance with requirement of standards.<br>Reflection of surrounding objects is minimized and in compliance with requirement of standards. |                           |

## 2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for the EUT are as follows:

Table 2.1: Highest Reported SAR [Main Antenna (Antenna 1)]

| Mode                                                                                                                                                                                                                                                                              | Highest Reported SAR (W/kg)            |                                    |                                  |                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------------|----------------------------------|------------------------------------------------|
|                                                                                                                                                                                                                                                                                   | 1g SAR Head                            | 1g SAR Body-worn (Separation 15mm) | 1g SAR Hotspot (Separation 10mm) | Product Specific 10-g SAR (Separation 0mm/6mm) |
| GSM 850                                                                                                                                                                                                                                                                           | 0.342                                  | 0.473                              | 0.891                            | NA                                             |
| GSM 1900                                                                                                                                                                                                                                                                          | 0.181                                  | 0.289                              | 0.599                            | 1.527                                          |
| WCDMA Band II                                                                                                                                                                                                                                                                     | 0.230                                  | 0.503                              | 1.089                            | 2.537                                          |
| WCDMA Band IV                                                                                                                                                                                                                                                                     | 0.351                                  | 0.875                              | 0.774                            | 2.699                                          |
| WCDMA Band V                                                                                                                                                                                                                                                                      | 0.333                                  | 0.371                              | 0.532                            | NA                                             |
| LTE FDD 2                                                                                                                                                                                                                                                                         | 0.228                                  | 0.540                              | 0.682                            | 2.304                                          |
| LTE FDD 4                                                                                                                                                                                                                                                                         | 0.292                                  | 0.859                              | 0.490                            | 2.597                                          |
| LTE FDD 5                                                                                                                                                                                                                                                                         | 0.273                                  | 0.262                              | 0.393                            | NA                                             |
| LTE FDD 7                                                                                                                                                                                                                                                                         | 0.255                                  | 0.310                              | 0.603                            | NA                                             |
| LTE FDD 12                                                                                                                                                                                                                                                                        | 0.251                                  | 0.221                              | 0.294                            | NA                                             |
| LTE FDD 17                                                                                                                                                                                                                                                                        | 0.242                                  | 0.220                              | 0.296                            | NA                                             |
| LTE FDD 26                                                                                                                                                                                                                                                                        | 0.249                                  | 0.334                              | 0.464                            | NA                                             |
| LTE TDD 38                                                                                                                                                                                                                                                                        | 0.217                                  | 0.189                              | 0.452                            | NA                                             |
| LTE TDD 41                                                                                                                                                                                                                                                                        | 0.227                                  | 0.246                              | 0.440                            | NA                                             |
| Date of Testing:                                                                                                                                                                                                                                                                  | September 10, 2017~ September 27, 2017 |                                    |                                  |                                                |
| Note: The device is in compliance with SAR for Uncontrolled Environment /General Population exposure limits (1.6 W/kg and 4.0 W/kg) specified in ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013. |                                        |                                    |                                  |                                                |

Table 2.2: Highest Reported SAR [Sub Antenna (Antenna 2)]

| Mode                                                                                                                                                                                                                                                                              | Highest Reported SAR (W/kg)            |                                    |                                  |                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------------|----------------------------------|------------------------------------------------|
|                                                                                                                                                                                                                                                                                   | 1g SAR Head                            | 1g SAR Body-worn (Separation 15mm) | 1g SAR Hotspot (Separation 10mm) | Product Specific 10-g SAR (Separation 0mm/6mm) |
| GSM 850                                                                                                                                                                                                                                                                           | 0.801                                  | 0.252                              | 0.297                            | NA                                             |
| GSM 1900                                                                                                                                                                                                                                                                          | 0.686                                  | 0.154                              | 0.203                            | NA                                             |
| WCDMA Band II                                                                                                                                                                                                                                                                     | 0.670                                  | 0.303                              | 0.277                            | NA                                             |
| WCDMA Band IV                                                                                                                                                                                                                                                                     | 0.676                                  | 0.325                              | 0.363                            | NA                                             |
| WCDMA Band V                                                                                                                                                                                                                                                                      | 0.836                                  | 0.315                              | 0.282                            | NA                                             |
| LTE FDD 2                                                                                                                                                                                                                                                                         | 0.929                                  | 0.237                              | 0.302                            | NA                                             |
| LTE FDD 4                                                                                                                                                                                                                                                                         | 0.656                                  | 0.208                              | 0.252                            | NA                                             |
| LTE FDD 5                                                                                                                                                                                                                                                                         | 0.745                                  | 0.257                              | 0.253                            | NA                                             |
| LTE FDD 7                                                                                                                                                                                                                                                                         | 0.720                                  | 0.132                              | 0.149                            | NA                                             |
| LTE FDD 12                                                                                                                                                                                                                                                                        | 0.774                                  | 0.194                              | 0.253                            | NA                                             |
| LTE FDD 17                                                                                                                                                                                                                                                                        | 0.782                                  | 0.142                              | 0.205                            | NA                                             |
| LTE FDD 26                                                                                                                                                                                                                                                                        | 0.726                                  | 0.257                              | 0.215                            | NA                                             |
| LTE TDD 38                                                                                                                                                                                                                                                                        | 1.060                                  | 0.185                              | 0.184                            | NA                                             |
| LTE TDD 41                                                                                                                                                                                                                                                                        | 0.884                                  | 0.249                              | 0.285                            | NA                                             |
| Date of Testing:                                                                                                                                                                                                                                                                  | September 10, 2017~ September 27, 2017 |                                    |                                  |                                                |
| Note: The device is in compliance with SAR for Uncontrolled Environment /General Population exposure limits (1.6 W/kg and 4.0 W/kg) specified in ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013. |                                        |                                    |                                  |                                                |

Table 2.1: Highest Reported SAR (Wi-Fi /BT Antenna)

| Mode                                                                                                                                                                                                                                                                              | Highest Reported SAR (W/kg)            |                                    |                                  |                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------------|----------------------------------|------------------------------------------------|
|                                                                                                                                                                                                                                                                                   | 1g SAR Head                            | 1g SAR Body-worn (Separation 15mm) | 1g SAR Hotspot (Separation 10mm) | Product Specific 10-g SAR (Separation 0mm/6mm) |
| Wi-Fi (2.4G) Antenna 1                                                                                                                                                                                                                                                            | 0.582                                  | 0.209                              | 0.524                            | NA                                             |
| Wi-Fi (2.4G) Antenna 2                                                                                                                                                                                                                                                            | 0.224                                  | 0.256                              | 0.630                            | NA                                             |
| Wi-Fi (5G) Antenna 1                                                                                                                                                                                                                                                              | 0.538                                  | 0.261                              | 0.231                            | 0.488                                          |
| Wi-Fi (5G) Antenna 2                                                                                                                                                                                                                                                              | 0.445                                  | 0.399                              | 0.159                            | 0.318                                          |
| Bluetooth                                                                                                                                                                                                                                                                         | 0.312                                  | NA                                 | 0.055                            | NA                                             |
| Date of Testing:                                                                                                                                                                                                                                                                  | September 10, 2017~ September 27, 2017 |                                    |                                  |                                                |
| Note: The device is in compliance with SAR for Uncontrolled Environment /General Population exposure limits (1.6 W/kg and 4.0 W/kg) specified in ANSI/IEEE C95.1-1992, and had been tested in accordance with the measurement methods and procedures specified in IEEE 1528-2013. |                                        |                                    |                                  |                                                |

Table 2.3: Highest Simultaneous Transmission SAR

| Exposure Configuration                                                                        | 1g SAR Head | 1g SAR Body-worn (Separation 15mm) | 1g SAR Hotspot (Separation 10mm) | Product Specific 10-g SAR (Separation 0mm) |
|-----------------------------------------------------------------------------------------------|-------------|------------------------------------|----------------------------------|--------------------------------------------|
| Highest Simultaneous Transmission SAR (W/kg)                                                  | 1.594       | 1.485                              | 1.752                            | 3.945                                      |
| Note: 1. The detail for simultaneous transmission consideration is described in chapter 10.4. |             |                                    |                                  |                                            |

### 3 Description of Equipment under Test

#### Client Information

|                             |                                                                                                                                  |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant</b>            | Huawei Technologies Co., Ltd.                                                                                                    |
| <b>Applicant address</b>    | Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.China. |
| <b>Manufacturer</b>         | Huawei Technologies Co., Ltd.                                                                                                    |
| <b>Manufacturer address</b> | Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.China. |

**General Technologies**

|                      |                                                                                                                                       |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| Application Purpose: | Original Grant                                                                                                                        |
| EUT Stage            | Identical Prototype                                                                                                                   |
| Model:               | BLA-L29                                                                                                                               |
| IMEI:                | SIM 1: 866219030003866<br>SIM 2: 866219030014863                                                                                      |
| Hardware Version:    | HL1BLAM                                                                                                                               |
| Software Version:    | BLA-L29 8.0.0.69(C432)                                                                                                                |
| Antenna Type:        | Internal Antenna                                                                                                                      |
| Device Class:        | B                                                                                                                                     |
| Wi-Fi Hotspot        | Wi-Fi 2.4G<br>Wi-Fi 5G U-NII-1&U-NII-3                                                                                                |
| Power Class:         | GSM 850:4<br>GSM 1900:1<br>UMTS Band II/IV/V:3<br>LTE FDD 2/4/5/7/12/17/26:3<br>LTE TDD 38/41:3                                       |
| Power Level          | GSM 850:level 5<br>GSM 1900:level 0<br>UMTS Band II/IV/V:all up bits<br>LTE FDD 2/4/5/7/12/17/26:max power<br>LTE TDD 38/41:max power |
| <b>EUT Accessory</b> |                                                                                                                                       |
| Battery 1            | Manufacturer: SCUD (FUJIAN) Electronics Co., Ltd<br>Model: HB436486ECW<br>Power Rating: DC 3.82V, 3900mAh, Li-ion                     |
| Battery 2            | Manufacturer: Sunwoda Electronic Co., LTD<br>Model: HB436486ECW<br>Power Rating: DC 3.82V, 3900mAh, Li-ion                            |
| Battery 3            | Manufacturer: Desay Battery Co., Ltd.<br>Model: HB436486ECW<br>Power Rating: DC 3.82V, 3900mAh, Li-ion                                |
| Earphone 1           | Manufacturer: JIANGXI LIANCHUANG HONGSHENG ELECTRONIC CO., LTD<br>Model: MEND1632B729000                                              |
| Earphone 2           | Manufacturer: BOLUO COUNTY QUANCHENG ELECTRONIC CO., LTD<br>Model: 1311-3301-6001-TC-296                                              |
| Earphone 3           | Manufacturer: Goer Tek Inc<br>Model: WINDY-C                                                                                          |
| Earphone 4           | Manufacturer: MERRY ELECTRONICS (SHENZHEN) CO., LTD.<br>Model: L99EP003-CS-H                                                          |



|            |                                                                                          |
|------------|------------------------------------------------------------------------------------------|
| Earphone 5 | Manufacturer: JIANGXI LIANCHUANG HONGSHENG ELECTRONIC CO., LTD<br>Model: MEND1632B729001 |
| Earphone 6 | Manufacturer: BOLUO COUNTY QUANCHENG ELECTRONIC CO., LTD<br>Model: 1311-3301-6001-TC-305 |

**Wireless Technology and Frequency Range**

| Wireless Technology |                                                                                                                                     | Modulation                | Operating mode                                                                                                  | Tx (MHz)                   |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------|-----------------------------------------------------------------------------------------------------------------|----------------------------|
| GSM                 | 850                                                                                                                                 | Voice(GMSK)<br>GPRS(GMSK) | <input type="checkbox"/> Multi-slot Class:8-1UP<br><input type="checkbox"/> Multi-slot Class:10-2UP             | 824 ~ 849                  |
|                     | 1900                                                                                                                                | EGPRS(GMSK,8PSK)          | <input checked="" type="checkbox"/> Multi-slot Class:12-4UP<br><input type="checkbox"/> Multi-slot Class:33-4UP | 1850 ~ 1910                |
|                     | Does this device support DTM (Dual Transfer Mode)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No              |                           |                                                                                                                 |                            |
| UMTS                | Band II                                                                                                                             | QPSK                      | HSDPA UE Category:24                                                                                            | 1850 ~ 1910                |
|                     | Band IV                                                                                                                             |                           | HSUPA UE Category:6                                                                                             | 1710 ~ 1755                |
|                     | Band V                                                                                                                              |                           | DC-HSDPA UE Category:24<br>HSPA+ Category:24                                                                    | 824 ~ 849                  |
| LTE                 | FDD 2                                                                                                                               | QPSK, 16QAM,<br>64QAM     | Category 18                                                                                                     | 1850 ~ 1910                |
|                     | FDD 4                                                                                                                               |                           |                                                                                                                 | 1710 ~ 1755                |
|                     | FDD 5                                                                                                                               |                           |                                                                                                                 | 824 ~ 849                  |
|                     | FDD 7                                                                                                                               |                           |                                                                                                                 | 2500 ~ 2570                |
|                     | FDD 12                                                                                                                              |                           |                                                                                                                 | 699 ~ 716                  |
|                     | FDD 17                                                                                                                              |                           |                                                                                                                 | 704 ~ 716                  |
|                     | FDD 26                                                                                                                              |                           |                                                                                                                 | 814 ~ 849                  |
|                     | TDD 38                                                                                                                              |                           |                                                                                                                 | 2570 ~ 2620                |
|                     | TDD 41                                                                                                                              |                           |                                                                                                                 | 2545 ~ 2655                |
|                     | Does this device support Carrier Aggregation (CA) <input checked="" type="checkbox"/> Yes downlink only <input type="checkbox"/> No |                           |                                                                                                                 |                            |
|                     | Does this device support SV-LTE (1xRTT-LTE)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                    |                           |                                                                                                                 |                            |
| BT                  | 2.4G                                                                                                                                | Version 4.2 LE            |                                                                                                                 | 2402 ~2480                 |
| Wi-Fi               | 2.4G                                                                                                                                | DSSS, OFDM                | 802.11b/g/n (HT20)                                                                                              | 2402 ~2472                 |
|                     | 5G                                                                                                                                  | OFDM                      | 802.11a/n 20M/40M/<br>ac 20M/40M/80M                                                                            | 5150 ~ 5350<br>5470 ~ 5850 |
|                     | Does this device support MIMO <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                   |                           |                                                                                                                 |                            |
| NFC                 | 13.56MHz                                                                                                                            |                           |                                                                                                                 |                            |



## 4 Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE 1528- 2013, ANSI/IEEE C95.1-1992, the following FCC Published RF exposure KDB procedures:

248227 D01 802.11 Wi-Fi SAR v02r02  
447498 D01 General RF Exposure Guidance v06  
616217 D04 SAR for laptop and tablets v01r02  
648474 D04 Handset SAR v01r03  
690783 D01 SAR Listings on Grants v01r03  
865664 D01 SAR measurement 100 MHz to 6 GHz v01r04  
865664 D02 RF Exposure Reporting v01r02  
941225 D01 3G SAR Procedures v03r01  
941225 D05 SAR for LTE Devices v02r05  
941225 D05A LTE Rel.10 KDB Inquiry Sheet v01r02  
941225 D06 Hotspot Mode v02r01



## 5 Operational Conditions during Test

### 5.1 Test Positions

#### 5.1.1 Against Phantom Head

Measurements were made in “cheek” and “tilt” positions on both the left hand and right hand sides of the phantom.

The positions used in the measurements were according to IEEE 1528 - 2013 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

#### 5.1.2 Body Worn Configuration

Body-worn operating configurations should be tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in normal use configurations.

Body-worn operating configurations are tested with the belt-clips and holsters attached to the device and positioned against a flat phantom in a normal use configuration. Per FCC KDB Publication 648474 D04, Body-worn accessory exposure is typically related to voice mode operations when handsets are carried in body-worn accessories. The body-worn accessory procedures in FCC KDB Publication 447498 D01 should be used to test for body-worn accessory SAR compliance, without a headset connected to it. This enables the test results for such configuration to be compatible with that required for hotspot mode when the body-worn accessory test separation distance is greater than or equal to that required for hotspot mode, when applicable. When the reported SAR for a body-worn accessory, measured without a headset connected to the handset, is  $> 1.2$  W/kg, the highest reported SAR configuration for that wireless mode and frequency band should be repeated for that body-worn accessory with a headset attached to the handset.

Accessories for Body-worn operation configurations are divided into two categories: those that do not contain metallic components and those that do contain metallic components. When multiple accessories that do not contain metallic components are supplied with the device, the device is tested with only the accessory that dictates the closest spacing to the body. Then multiple accessories that contain metallic components are tested with the device with each accessory. If multiple accessories share an identical metallic component (i.e. the same metallic belt-clip used with different holsters with no other metallic components) only the accessory that dictates the closest spacing to the body is tested.

Body-worn accessories may not always be supplied or available as options for some devices intended to be authorized for body-worn use. In this case, a test configuration with a separation distance between the back of the device and the flat phantom is used. Test position spacing was documented. Transmitters that are designed to operate in front of a person's face, as in push-to-talk configurations, are tested for SAR compliance with the front of the device positioned to face the flat phantom in head fluid. For devices that are carried next to the body such as a shoulder, waist or chest-worn transmitters, SAR compliance is tested with the accessories, including headsets and microphones, attached to the device and positioned against a flat phantom in a normal use configuration.



### 5.1.3 Phablet SAR test considerations

For smart phones, with a display diagonal dimension  $> 15.0$  cm or an overall diagonal dimension  $> 16.0$  cm, that can provide similar mobile web access and multimedia support found in mini-tablets or UMPC mini-tablets and support voice calls next to the ear, unless it is confirmed otherwise through KDB inquiries, the following phablet procedures should be applied to evaluate SAR compliance for each applicable wireless modes and frequency band. Devices marketed as phablets, regardless of form factors and operating characteristics must be tested as a phablet to determine SAR compliance.

- a) The normally required head and body-worn accessory SAR test procedures for handsets, including hotspot mode, must be applied.
- b) The UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at  $\leq 25$  mm from that surface or edge, in direct contact with a flat phantom, for Product Specific 10-g SAR according to the body-equivalent tissue dielectric parameters in KDB Publication 865664 D01 to address interactive hand use exposure conditions. The 1-g SAR at 5 mm for UMPC mini-tablets is not required. When hotspot mode applies, Product Specific 10-g SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR  $> 1.2$  W/kg; however, when power reduction applies to hotspot mode the measured SAR must be scaled to the maximum output power, including tolerance, allowed for phablet modes to compare with the 1.2 W/kg SAR test reduction threshold. The normal tablet procedures in KDB Publication 616217 are required when the overall diagonal dimension of the device is  $> 20.0$  cm. Hotspot mode SAR is not required when normal tablet procedures are applied. Extremity 10-g SAR is also not required for the front (top) surface of larger form factor full size tablets. The more conservative normal tablet SAR results can be used to support phablet mode Product Specific 10-g SAR.
- c) The simultaneous transmission operating configurations applicable to voice and data transmissions for both phone and mini-tablet modes must be taken into consideration separately for 1-g and 10-g SAR to determine the simultaneous transmission SAR test exclusion and measurement requirements for the relevant wireless modes and exposure conditions.

## 5.2 Measurement Variability

Per FCC KDB Publication 865664 D01, SAR measurement variability was assessed for each frequency band, which was determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media were required for SAR measurements in a frequency band, the variability measurement procedures were applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium. These additional measurements were repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device was returned to ambient conditions (normal room temperature) with the battery fully charged before it was re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

SAR Measurement Variability was assessed using the following procedures for each frequency band:

- 1) When the original highest measured SAR is  $\geq 0.80$  W/kg, the measurement was repeated once.
- 2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was  $> 1.20$  or when the original or repeated measurement was  $\geq 1.45$  W/kg ( $\sim 10\%$  from the 1-g SAR limit).
- 3) A third repeated measurement was performed only if the original, first or second repeated measurement was  $\geq 1.5$  W/kg and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .
- 4) Repeated measurements are not required when the original highest measured SAR is  $< 0.80$  W/kg

The same procedures should be adapted for measurements according to extremity and occupational exposure limits by applying a factor of 2.5 for extremity exposure and a factor of 5 for occupational exposure to the corresponding SAR thresholds.

## 5.3 Test Configuration

### 5.3.1 GSM Test Configuration

According to specification 3GPP TS 51.010, the maximum power of the GSM can do the power reduction for the multi-slot. The allowed power reduction in the multi-slot configuration is as following:

Output power of reductions:

**Table 5.1: The allowed power reduction in the multi-slot configuration**

| Number of timeslots in uplink assignment | Permissible nominal reduction of maximum output power,(dB) |
|------------------------------------------|------------------------------------------------------------|
| 1                                        | 0                                                          |
| 2                                        | 0 to 3,0                                                   |
| 3                                        | 1,8 to 4,8                                                 |
| 4                                        | 3,0 to 6,0                                                 |

### 5.3.2 3G Test Configuration

#### 3G SAR Test Reduction Procedure

In the following procedures, the mode tested for SAR is referred to as the primary mode. The equivalent modes considered for SAR test reduction are denoted as secondary modes. Both primary and secondary modes must be in the same frequency band. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.<sup>3</sup> This is referred to as the 3G SAR test reduction procedure in the following SAR test guidance, where the primary mode is identified in the applicable wireless mode test procedures and the secondary mode is wireless mode being considered for SAR test reduction by that procedure. When the 3G SAR test reduction procedure is not satisfied, it is identified as “otherwise” in the applicable procedures; SAR measurement is required for the secondary mode.

##### 5.3.2.1 WCDMA Test Configuration

#### Output power Verification

Maximum output power is verified on the high, middle and low channels according to procedures described in section 5.2 of 3GPP TS 34.121, using the appropriate RMC or AMR with TPC (transmit power control) set to all “1’s” for WCDMA/HSDPA or by applying the required inner loop power control procedures to maintain maximum output power while HSUPA is active. Results for all applicable physical channel configurations (DPCCH, DPDCHn and spreading codes, HSDPA, HSPA) are required in the SAR report. All configurations that are not supported by the handset or cannot be measured due to technical or equipment limitations must be clearly identified.

#### Head SAR

SAR for next to the ear head exposure is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to AMR configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for 12.2 kbps AMR in 3.4 kbps SRB (signaling radio bearer) using the highest reported SAR configuration in 12.2 kbps RMC for head exposure.

#### Body-Worn Accessory SAR

SAR for body-worn accessory configurations is measured using a 12.2 kbps RMC with TPC bits configured to all “1’s”. The 3G SAR test reduction procedure is applied to other spreading codes and multiple DPDCHn configurations supported by the handset with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured using an applicable RMC configuration with the corresponding spreading code or DPDCHn, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When more than 2 DPDCHn are supported by the handset, it may be necessary to configure additional DPDCHn using FTM (Factory Test Mode) or other chipset based test approaches with parameters similar to those used in 384 kbps and 768 kbps RMC.

## Handsets with Release 5 HSDPA

The 3G SAR test reduction procedure is applied to HSDPA body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSDPA using the HSDPA body SAR procedures in the “Release 5 HSDPA Data Devices” section of this document, for the highest reported SAR body-worn accessory exposure configuration in 12.2 kbps RMC. Handsets with both HSDPA and HSUPA are tested according to Release 6 HSPA test procedures.

HSDPA should be configured according to the UE category of a test device. The number of HSDSCH/HS-PDSCHs, HARQ processes, minimum inter-TTI interval, transport block sizes and RV coding sequence are defined by the H-set. To maintain a consistent test configuration and stable transmission conditions, QPSK is used in the H-set for SAR testing. HS-DPCCH should be configured with a CQI feedback cycle of 4 ms with a CQI repetition factor of 2 to maintain a constant rate of active CQI slots. DPCCH and DPDCH gain factors ( $\beta_c$ ,  $\beta_d$ ), and HS-DPCCH power offset parameters ( $\Delta_{ACK}$ ,  $\Delta_{NACK}$ ,  $\Delta_{CQI}$ ) should be set according to values indicated in the Table below. The CQI value is determined by the UE category, transport block size, number of HS-PDSCHs and modulation used in the H-set.

**Table 5.2: Subtests for UMTS Release 5 HSDPA**

| Sub-set                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | $\beta_c$         | $\beta_d$         | $\beta_d$<br>(SF) | $\beta_c/\beta_d$ | $\beta_{hs}$<br>(note 1, note 2) | CM(dB)<br>(note 3) | MPR(dB) |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|-------------------|-------------------|----------------------------------|--------------------|---------|
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 2/15              | 15/15             | 64                | 2/15              | 4/15                             | 0.0                | 0.0     |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 12/15<br>(note 4) | 15/15<br>(note 4) | 64                | 12/15<br>(note 4) | 24/15                            | 1.0                | 0.0     |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 15/15             | 8/15              | 64                | 15/8              | 30/15                            | 1.5                | 0.5     |
| 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 15/15             | 4/15              | 64                | 15/4              | 30/15                            | 1.5                | 0.5     |
| <p>Note1: <math>\Delta_{ACK}</math>, <math>\Delta_{NACK}</math> and <math>\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c</math></p> <p>Note2: CM=1 for <math>\beta_c/\beta_d = 12/15</math>, <math>\beta_{hs}/\beta_c = 24/15</math>.</p> <p>Note3: For subtest 2 the <math>\beta_c/\beta_d</math> ratio of 12/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC (TFC1,TF1) to <math>\beta_c = 11/15</math> and <math>\beta_d = 15/15</math>.</p> |                   |                   |                   |                   |                                  |                    |         |

## HSUPA Test Configuration

The 3G SAR test reduction procedure is applied to HSPA (HSUPA/HSDPA with RMC) body-worn accessory configurations with 12.2 kbps RMC as the primary mode. Otherwise, SAR is measured for HSPA using the HSPA body SAR procedures in the “Release 6 HSPA Data Devices” section of this document, for the highest reported body-worn accessory exposure SAR configuration in 12.2 kbps RMC. When VOIP is applicable for next to the ear head exposure in HSPA, the 3G SAR test reduction procedure is applied to HSPA with 12.2 kbps RMC as the primary mode; otherwise, the same HSPA configuration used for body-worn accessory measurements is tested for next to the ear head exposure.

Due to inner loop power control requirements in HSPA, a communication test set is required for output power and SAR tests. The 12.2 kbps RMC, FRC H-set 1 and E-DCH configurations for HSPA are configured according to the  $\beta$  values indicated in Table 2 and other applicable procedures described in the ‘WCDMA Handset’ and ‘Release 5 HSDPA Data Devices’ sections of this document

**Table 5.3: Sub-Test 5 Setup for Release 6 HSUPA**

| Sub-set | $\beta_c$            | $\beta_d$            | $\beta_d$<br>(SF) | $\beta_c/\beta_d$    | $\beta_{hs}^{(1)}$ | $\beta_{ec}$ | $\beta_{ed}$                               | $\beta_{ed}$<br>(SF) | $\beta_{ed}$<br>(codes) | CM <sup>(2)</sup><br>(dB) | MPR<br>(dB) | AG <sup>(4)</sup><br>Index | E-TFCI |
|---------|----------------------|----------------------|-------------------|----------------------|--------------------|--------------|--------------------------------------------|----------------------|-------------------------|---------------------------|-------------|----------------------------|--------|
| 1       | 11/15 <sup>(3)</sup> | 15/15 <sup>(3)</sup> | 64                | 11/15 <sup>(3)</sup> | 22/15              | 209/225      | 1039/225                                   | 4                    | 1                       | 1.0                       | 0.0         | 20                         | 75     |
| 2       | 6/15                 | 15/15                | 64                | 6/15                 | 12/15              | 12/15        | 94/75                                      | 4                    | 1                       | 3.0                       | 2.0         | 12                         | 67     |
| 3       | 15/15                | 9/15                 | 64                | 15/9                 | 30/15              | 30/15        | $\beta_{ed1}$ 47/15<br>$\beta_{ed2}$ 47/15 | 4                    | 2                       | 2.0                       | 1.0         | 15                         | 92     |
| 4       | 2/15                 | 15/15                | 64                | 2/15                 | 4/15               | 2/15         | 56/75                                      | 4                    | 1                       | 3.0                       | 2.0         | 17                         | 71     |
| 5       | 15/15 <sup>(4)</sup> | 15/15 <sup>(4)</sup> | 64                | 15/15 <sup>(4)</sup> | 30/15              | 24/15        | 134/15                                     | 4                    | 1                       | 1.0                       | 0.0         | 21                         | 81     |

Note 1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$ .

Note 2: CM = 1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCH, HS- DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note 3: For subtest 1 the  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 10/15$  and  $\beta_d = 15/15$ .

Note 4: For subtest 5 the  $\beta_c/\beta_d$  ratio of 15/15 for the TFC during the measurement period (TF1, TF0) is achieved by setting the signaled gain factors for the reference TFC (TF1, TF1) to  $\beta_c = 14/15$  and  $\beta_d = 15/15$ .

Note 5: Testing UE using E-DPDCH Physical Layer category 1 Sub-test 3 is not required according to TS 25.306 Figure 5.1g.

Note 6:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

**Table 5.4: HSUPA UE category**

| UE<br>E-DCH<br>Category | Maximum<br>E-DCH<br>Codes<br>Transmitted | Number<br>of HARQ<br>Processes | E-<br>DCH<br>TTI<br>(ms) | Minimum<br>Spreading<br>Factor | Maximum<br>E-DCH<br>Transport<br>Block Bits | Max<br>Rate<br>(Mbps) |
|-------------------------|------------------------------------------|--------------------------------|--------------------------|--------------------------------|---------------------------------------------|-----------------------|
| 1                       | 1                                        | 4                              | 10                       | 4                              | 7110                                        | 0.7296                |
| 2                       | 2                                        | 8                              | 2                        | 4                              | 2798                                        | 1.4592                |
|                         | 2                                        | 4                              | 10                       | 4                              | 14484                                       |                       |
| 3                       | 2                                        | 4                              | 10                       | 4                              | 14484                                       | 1.4592                |
| 4                       | 2                                        | 8                              | 2                        | 2                              | 5772                                        | 2.9185                |
|                         | 2                                        | 4                              | 10                       | 2                              | 20000                                       | 2.00                  |
| 5                       | 2                                        | 4                              | 10                       | 2                              | 20000                                       | 2.00                  |
| 6<br>(No DPDCH)         | 4                                        | 8                              | 2                        | 2 SF2 & 2 SF4                  | 11484                                       | 5.76                  |
|                         | 4                                        | 4                              | 10                       |                                | 20000                                       | 2.00                  |
| 7<br>(No DPDCH)         | 4                                        | 8                              | 2                        | 2 SF2 & 2 SF4                  | 22996                                       | ?                     |
|                         | 4                                        | 4                              | 10                       |                                | 20000                                       | ?                     |

NOTE: When 4 codes are transmitted in parallel, two codes shall be transmitted with SF2 and two with SF4.  
UE Categories 1 to 6 supports QPSK only. UE Category 7 supports QPSK and 16QAM.  
(TS25.306-7.3.0)



## HSPA, HSPA+ and DC-HSDPA Test Configuration

Measurement is required for HSPA, HSPA+ or DC-HSDPA, a KDB inquiry is required to confirm that the wireless mode configurations in the test setup have remained stable throughout the SAR measurements.<sup>35</sup> Without prior KDB confirmation to determine the SAR results are acceptable, a PBA is required for TCB approval.

SAR test exclusion for HSPA, HSPA+ and DC-HSDPA is determined according to the following:

- 1) The HSPA procedures are applied to configure 3GPP Rel. 6 HSPA devices in the required sub-test mode(s) to determine SAR test exclusion.
- 2) SAR is required for Rel. 7 HSPA+ when SAR is required for Rel. 6 HSPA; otherwise, the 3G SAR test reduction procedure is applied to (uplink) HSPA+ with 12.2 kbps RMC as the primary mode.<sup>36</sup> Power is measured for HSPA+ that supports uplink 16 QAM according to configurations in Table C.11.1.4 of 3GPP TS 34.121-1 to determine SAR test reduction.
- 3) SAR is required for Rel. 8 DC-HSDPA when SAR is required for Rel. 5 HSDPA; otherwise, the 3G SAR test reduction procedure is applied to DC-HSDPA with 12.2 kbps RMC as the primary mode. Power is measured for DC-HSDPA according to the H-Set 12, FRC configuration in Table C.8.1.12 of 3GPP TS 34.121-1 to determine SAR test reduction. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to be acceptable.
- 4) Regardless of whether a PBA is required, the following information must be verified and included in the SAR report for devices supporting HSPA, HSPA+ or DC-HSDPA: a) The output power measurement results and applicable release version(s) of 3GPP TS 34.121.

i) Power measurement difficulties due to test equipment setup or availability must be resolved between the grantee and its test lab.

b) The power measurement results are in agreement with the individual device implementation and specifications. When Enhanced MPR (E-MPR) applies, the normal MPR targets may be modified according to the Cubic Metric (CM) measured by the device, which must be taken into consideration.

c) The UE category, operating parameters, such as the  $\beta$  and  $\Delta$  values used to configure the device for testing, power setback procedures described in 3GPP TS 34.121 for the power measurements, and HSPA/HSPA+ channel conditions (active and stable) for the entire duration of the measurement according to the required E-TFCI and AG index values.

5) When SAR measurement is required, the test configurations, procedures and power measurement results must be clearly described to confirm that the required test parameters are used, including E-TFCI and AG index stability and output power conditions.

**Table 5.5: HS-DSCH UE category**
**Table 5.1a: FDD HS-DSCH physical layer categories**

| HS-DSCH category      | Maximum number of HS-DSCH codes received | Minimum inter-TTI interval | Maximum number of bits of an HS-DSCH transport block received within an HS-DSCH TTI<br>NOTE 1 | Total number of soft channel bits | Supported modulations without MIMO operation or dual cell operation | Supported modulations with MIMO operation and without dual cell operation | Supported modulations with dual cell operation     |
|-----------------------|------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------|-----------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------------|----------------------------------------------------|
| Category 1            | 5                                        | 3                          | 7298                                                                                          | 19200                             | QPSK, 16QAM                                                         | Not applicable (MIMO not supported)                                       | Not applicable (dual cell operation not supported) |
| Category 2            | 5                                        | 3                          | 7298                                                                                          | 28800                             |                                                                     |                                                                           |                                                    |
| Category 3            | 5                                        | 2                          | 7298                                                                                          | 28800                             |                                                                     |                                                                           |                                                    |
| Category 4            | 5                                        | 2                          | 7298                                                                                          | 38400                             |                                                                     |                                                                           |                                                    |
| Category 5            | 5                                        | 1                          | 7298                                                                                          | 57600                             |                                                                     |                                                                           |                                                    |
| Category 6            | 5                                        | 1                          | 7298                                                                                          | 67200                             |                                                                     |                                                                           |                                                    |
| Category 7            | 10                                       | 1                          | 14411                                                                                         | 115200                            |                                                                     |                                                                           |                                                    |
| Category 8            | 10                                       | 1                          | 14411                                                                                         | 134400                            |                                                                     |                                                                           |                                                    |
| Category 9            | 15                                       | 1                          | 20251                                                                                         | 172800                            |                                                                     |                                                                           |                                                    |
| Category 10           | 15                                       | 1                          | 27952                                                                                         | 172800                            |                                                                     |                                                                           |                                                    |
| Category 11           | 5                                        | 2                          | 3630                                                                                          | 14400                             | QPSK                                                                |                                                                           |                                                    |
| Category 12           | 5                                        | 1                          | 3630                                                                                          | 28800                             |                                                                     |                                                                           |                                                    |
| Category 13           | 15                                       | 1                          | 35280                                                                                         | 259200                            | QPSK, 16QAM, 64QAM                                                  |                                                                           |                                                    |
| Category 14           | 15                                       | 1                          | 42192                                                                                         | 259200                            |                                                                     |                                                                           |                                                    |
| Category 15           | 15                                       | 1                          | 23370                                                                                         | 345600                            | QPSK, 16QAM                                                         |                                                                           |                                                    |
| Category 16           | 15                                       | 1                          | 27952                                                                                         | 345600                            |                                                                     |                                                                           |                                                    |
| Category 17<br>NOTE 2 | 15                                       | 1                          | 35280                                                                                         | 259200                            | QPSK, 16QAM, 64QAM                                                  | —                                                                         |                                                    |
|                       |                                          |                            | 23370                                                                                         | 345600                            | —                                                                   | QPSK, 16QAM                                                               |                                                    |
| Category 18<br>NOTE 3 | 15                                       | 1                          | 42192                                                                                         | 259200                            | QPSK, 16QAM, 64QAM                                                  | —                                                                         |                                                    |
|                       |                                          |                            | 27952                                                                                         | 345600                            | —                                                                   | QPSK, 16QAM                                                               |                                                    |
| Category 19           | 15                                       | 1                          | 35280                                                                                         | 518400                            | QPSK, 16QAM, 64QAM                                                  |                                                                           |                                                    |
| Category 20           | 15                                       | 1                          | 42192                                                                                         | 518400                            |                                                                     |                                                                           |                                                    |
| Category 21           | 15                                       | 1                          | 23370                                                                                         | 345600                            | -                                                                   | -                                                                         | QPSK, 16QAM                                        |
| Category 22           | 15                                       | 1                          | 27952                                                                                         | 345600                            |                                                                     |                                                                           | QPSK, 16QAM, 64QAM                                 |
| Category 23           | 15                                       | 1                          | 35280                                                                                         | 518400                            |                                                                     |                                                                           |                                                    |
| Category 24           | 15                                       | 1                          | 42192                                                                                         | 518400                            |                                                                     |                                                                           |                                                    |

### 5.3.3 LTE Test Configuration

LTE modes were tested according to FCC KDB 941225 D05 publication. Please see notes after the tabulated SAR data for required test configurations. Establishing connections with base station simulators ensure a consistent means for testing SAR and are recommended for evaluating SAR [4]. The R&S CMW500 was used for LTE output power measurements and SAR testing. Max power control was used so the UE transmits with maximum output power during SAR testing. SAR must be measured with the maximum TTI (transmit time interval) supported by the device in each LTE configuration.

#### A) Spectrum Plots for RB Configurations

A properly configured base station simulator was used for SAR tests and power measurements. Therefore, spectrum plots for RB configurations were not required to be included in this report.



**B) MPR**

MPR is permanently implemented for this device by the manufacturer. The specific manufacturer target MPR is indicated alongside the SAR results. MPR is enabled for this device, according to 3GPP TS36.101 Section 6.2.3 – 6.2.5 under Table 6.2.3-1.

**C) A-MPR**

A-MPR (Additional MPR) has been disabled for all SAR tests by setting NS=01 on the base station simulator.

**D) Largest channel bandwidth standalone SAR test requirements****1) QPSK with 1 RB allocation**

Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB allocation, using the RB offset and required test channel combination with the highest maximum output power for RB offsets at the upper edge, middle and lower edge of each required test channel. When the reported SAR is  $\leq 0.8$  W/kg, testing of the remaining RB offset configurations and required test channels is not required for 1 RB allocation; otherwise, SAR is required for the remaining required test channels and only for the RB offset configuration with the highest output power for that channel. When the reported SAR of a required test channel is  $> 1.45$  W/kg, SAR is required for all three RB offset configurations for that required test channel.

**2) QPSK with 50% RB allocation**

The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.

**3) QPSK with 100% RB allocation**

For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation in 1) and 2) are  $\leq 0.8$  W/kg. Otherwise, SAR is measured for the highest output power channel and if the reported SAR is  $> 1.45$  W/kg, the remaining required test channels must also be tested.

**4) Higher order modulations**

For each modulation besides QPSK; e.g., 16-QAM, 64-QAM, apply the QPSK procedures in above sections to determine the QAM configurations that may need SAR measurement. For each configuration identified as required for testing, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is  $> \frac{1}{2}$  dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is  $> 1.45$  W/kg.

**E) Other channel bandwidth standalone SAR test requirements**

For the other channel bandwidths used by the device in a frequency band, apply all the procedures required for the largest channel bandwidth in section A) to determine the channels and RB configurations that need SAR testing and only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is  $> \frac{1}{2}$  dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the *reported* SAR of a configuration for the largest channel bandwidth is  $> 1.45$  W/kg.

### 5.3.4 TDD LTE specification

For Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

TDD LTE Band supports 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

Figure 4.2-1: Frame structure type 2

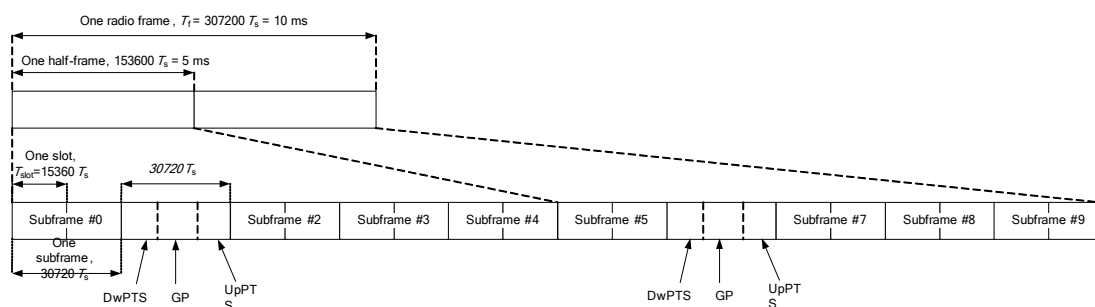


Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)

| Special subframe configuration | Normal cyclic prefix in downlink |                                |                                  | Extended cyclic prefix in downlink |                                |                                  |
|--------------------------------|----------------------------------|--------------------------------|----------------------------------|------------------------------------|--------------------------------|----------------------------------|
|                                | DwPTS                            | UpPTS                          |                                  | DwPTS                              | UpPTS                          |                                  |
|                                |                                  | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |                                    | Normal cyclic prefix in uplink | Extended cyclic prefix in uplink |
| 0                              | $6592 \cdot T_s$                 | $2192 \cdot T_s$               | $2560 \cdot T_s$                 | $7680 \cdot T_s$                   | $2192 \cdot T_s$               | $2560 \cdot T_s$                 |
| 1                              | $19760 \cdot T_s$                |                                |                                  | $20480 \cdot T_s$                  |                                |                                  |
| 2                              | $21952 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 3                              | $24144 \cdot T_s$                |                                |                                  | $25600 \cdot T_s$                  |                                |                                  |
| 4                              | $26336 \cdot T_s$                |                                |                                  | $7680 \cdot T_s$                   | $4384 \cdot T_s$               | $5120 \cdot T_s$                 |
| 5                              | $6592 \cdot T_s$                 | $4384 \cdot T_s$               | $5120 \cdot T_s$                 | $20480 \cdot T_s$                  |                                |                                  |
| 6                              | $19760 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 7                              | $21952 \cdot T_s$                |                                |                                  | $12800 \cdot T_s$                  |                                |                                  |
| 8                              | $24144 \cdot T_s$                |                                |                                  | -                                  | -                              | -                                |
| 9                              | $13168 \cdot T_s$                |                                |                                  | -                                  | -                              | -                                |

**Table 4.2-2: Uplink-downlink configurations**

| Uplink-downlink configuration | Downlink-to-Uplink Switch-point periodicity | Subframe number |   |   |   |   |   |   |   |   |   |
|-------------------------------|---------------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|
|                               |                                             | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 0                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | U |
| 1                             | 5 ms                                        | D               | S | U | U | D | D | S | U | U | D |
| 2                             | 5 ms                                        | D               | S | U | D | D | D | S | U | D | D |
| 3                             | 10 ms                                       | D               | S | U | U | U | D | D | D | D | D |
| 4                             | 10 ms                                       | D               | S | U | U | D | D | D | D | D | D |
| 5                             | 10 ms                                       | D               | S | U | D | D | D | D | D | D | D |
| 6                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | D |

According to Figure 4.2-1, one radio frame is configured by 10 subframes, which consist of Uplink-subframe, Downlink-subframe and Special subframe. For TDD-LTE, the Duty Cycle should be calculated on Uplink-subframes and Special subframes, due to Special subframe containing both Uplink transmissions. So for one radio frame, Duty Cycle can be calculated with formula as below. The count of Uplink subframes are according to Table 4.2-2:

$$\text{Duty cycle} = (30720Ts * \text{Ups} + \text{Uplink Component} * \text{Specials}) / (307200Ts)$$

About the uplink component of Special subframes, we can figure out by Table 4.2-1:

$$\text{Uplink Component} = \text{UpPTS}$$

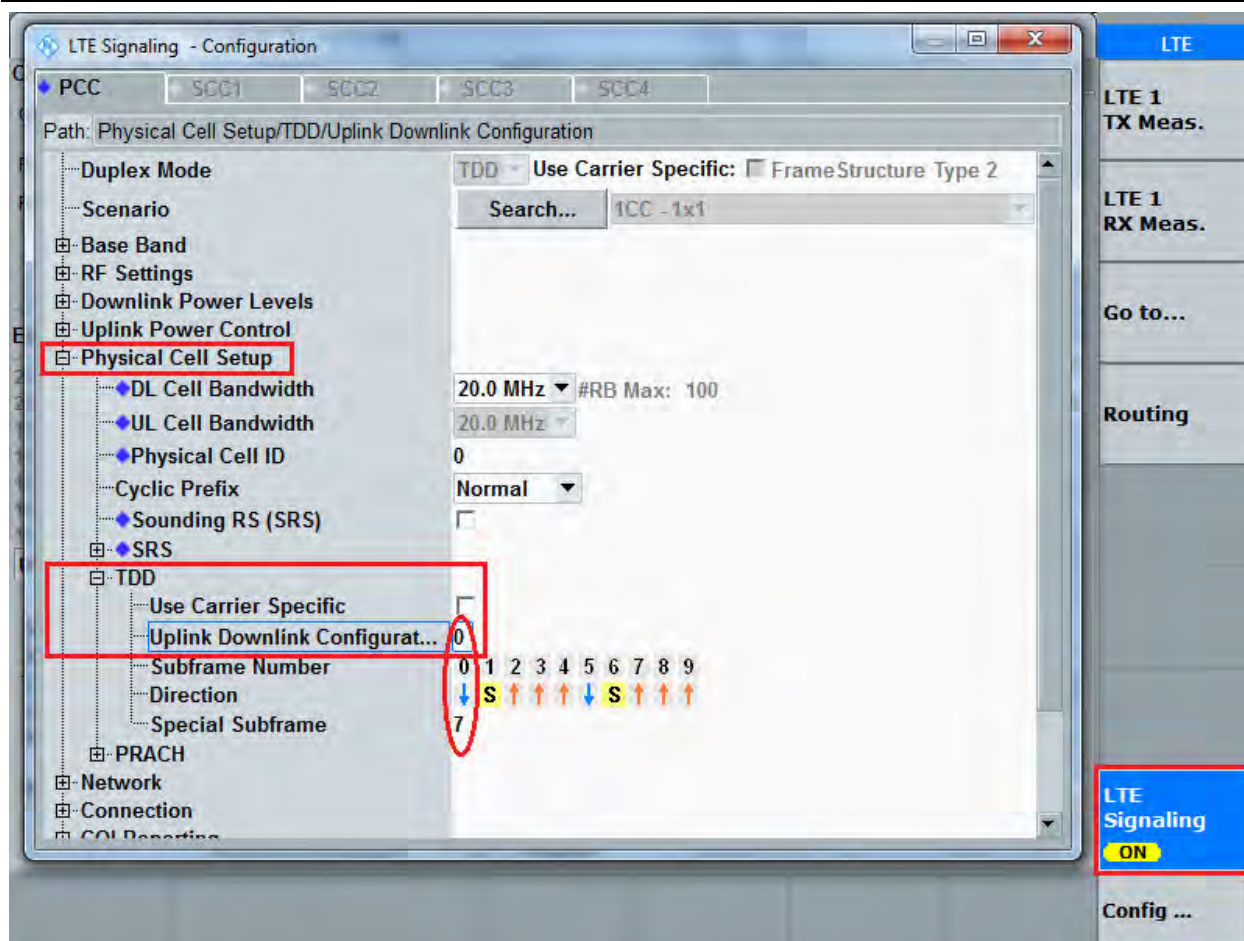
In conclusion, for the TDD LTE Band, Duty Cycle can be calculated with formula as below .all these sets are ok when we test, or we can set as below.

$$\text{Duty cycle} = [(30720Ts * \text{Ups}) + \text{UpPTS} * \text{Specials}] / (307200Ts)$$

And we can get different Duty cycles under different configurations:

| Uplink-downlink configuration | Subframe number |   |   | Configuration of special subframe |                   |                                  |                   |                                    |                   |                                  |                   |
|-------------------------------|-----------------|---|---|-----------------------------------|-------------------|----------------------------------|-------------------|------------------------------------|-------------------|----------------------------------|-------------------|
|                               |                 |   |   | Normal cyclic prefix in downlink  |                   |                                  |                   | Extended cyclic prefix in downlink |                   |                                  |                   |
|                               |                 |   |   | Normal cyclic prefix in uplink    |                   | Extended cyclic prefix in uplink |                   | Normal cyclic prefix in uplink     |                   | Extended cyclic prefix in uplink |                   |
|                               | D               | S | U | configuration 0~4                 | configuration 5~9 | configuration 0~4                | configuration 5~9 | configuration 0~3                  | configuration 4~7 | configuration 0~3                | configuration 4~7 |
| 0                             | 2               | 2 | 6 | 61.43%                            | 62.85%            | 61.67%                           | 63.33%            | 61.43%                             | 62.85%            | 61.67%                           | 63.33%            |
| 1                             | 4               | 2 | 4 | 41.43%                            | 42.85%            | 41.67%                           | 43.33%            | 41.43%                             | 42.85%            | 41.67%                           | 43.33%            |
| 2                             | 6               | 2 | 2 | 21.43%                            | 22.85%            | 21.67%                           | 23.33%            | 21.43%                             | 22.85%            | 21.67%                           | 23.33%            |
| 3                             | 6               | 1 | 3 | 30.71%                            | 31.43%            | 30.83%                           | 31.67%            | 30.71%                             | 31.43%            | 30.83%                           | 31.67%            |
| 4                             | 7               | 1 | 2 | 20.71%                            | 21.43%            | 20.83%                           | 21.67%            | 20.71%                             | 21.43%            | 20.83%                           | 21.67%            |
| 5                             | 8               | 1 | 1 | 10.71%                            | 11.43%            | 10.83%                           | 11.67%            | 10.71%                             | 11.43%            | 10.83%                           | 11.67%            |
| 6                             | 3               | 2 | 5 | 51.43%                            | 52.85%            | 51.67%                           | 53.33%            | 51.43%                             | 52.85%            | 51.67%                           | 53.33%            |

SAR test Plan: For TDD LTE, SAR should be tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7 for Frame structure type



### 5.3.5 Wi-Fi Test Configuration

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; these are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

The multiple test positions require SAR measurements in head, hotspot mode or UMPC mini-tablet configurations may be reduced according to the highest reported SAR determined using the *initial test position(s)* by applying the DSSS or OFDM SAR measurement procedures in the required wireless mode test configuration(s). The *initial test position(s)* is measured using the highest measured maximum output power channel in the required wireless mode test configuration(s). When the *reported SAR* for the *initial test position* is:

- $\leq 0.4$  W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to

the required SAR procedures.

- 0.4 W/kg, SAR is repeated using the same wireless mode test configuration tested in the *initial test position* to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the *reported SAR* is  $\leq 0.8$  W/kg or all required test positions are tested.
  - ✧ For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
  - ✧ When it is unclear, all equivalent conditions must be tested.
- For all positions/configurations tested using the *initial test position* and subsequent test positions, when the *reported SAR* is  $> 0.8$  W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the *reported SAR* is  $\leq 1.2$  W/kg or all required test channels are considered.
  - ✧ The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.

To determine the initial test position, Area Scans were performed to determine the position with the Maximum Value of SAR (measured). The position that produced the highest Maximum Value of SAR is considered the worst case position; thus used as the initial test position.

A Wi-Fi device must be configured to transmit continuously at the required data rate, channel bandwidth and signal modulation, using the highest transmission duty factor supported by the test mode tools for SAR measurement. This RF signal utilized in SAR measurement has almost 100% duty cycle and its crest factor is 1.

#### 5.3.6 BT Test Configuration

For BT SAR testing, BT engineering testing software installed on the EUT can provide continuous transmitting RF signal with maximum output power. And the CBT control the EUT operating with hopping off and data rate set for 3DH5. This RF signal utilized in SAR measurement has almost 100% duty cycle and its crest factor is 1.

### 5.3.7 Downlink LTE CA specification

The device supports downlink Rel. 13 LTE carrier aggregation only. It supports a maximum of 2 carriers in the downlink. Other Release 13 features are not supported, including Uplink Carrier Aggregation, Enhanced SC-FDMA and Uplink MIMO etc.

Intra-band contiguous CA configurations

| E-UTRA CA configuration / Bandwidth combination set |                                                             |                                      |                                      |                                      |                                    |                           |
|-----------------------------------------------------|-------------------------------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|------------------------------------|---------------------------|
| E-UTRA CA configuration                             | Component carriers in order of increasing carrier frequency |                                      |                                      |                                      | Maximum aggregated bandwidth [MHz] | Bandwidth combination set |
|                                                     | Channel bandwidths for carrier [MHz]                        | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] | Channel bandwidths for carrier [MHz] |                                    |                           |
| CA_2C                                               | 5                                                           | 20                                   |                                      |                                      | 40                                 | 0                         |
|                                                     | 10                                                          | 15, 20                               |                                      |                                      |                                    |                           |
|                                                     | 15                                                          | 10, 15, 20                           |                                      |                                      |                                    |                           |
|                                                     | 20                                                          | 5, 10, 15, 20                        |                                      |                                      |                                    |                           |
| CA_5B                                               | 5, 10                                                       | 10                                   |                                      |                                      | 20                                 | 0                         |
|                                                     | 10                                                          | 5                                    |                                      |                                      |                                    |                           |
| CA_7C                                               | 15                                                          | 15                                   |                                      |                                      | 40                                 | 0                         |
|                                                     | 20                                                          | 20                                   |                                      |                                      |                                    |                           |
|                                                     | 10                                                          | 20                                   |                                      |                                      | 40                                 | 1                         |
|                                                     | 15                                                          | 15, 20                               |                                      |                                      |                                    |                           |
|                                                     | 20                                                          | 10, 15, 20                           |                                      |                                      | 40                                 | 2                         |
|                                                     | 15                                                          | 10, 15                               |                                      |                                      |                                    |                           |
|                                                     | 20                                                          | 15, 20                               |                                      |                                      |                                    |                           |
| CA_12B                                              | 5                                                           | 5, 10                                |                                      |                                      | 15                                 | 0                         |
| CA_38C                                              | 15                                                          | 15                                   |                                      |                                      | 40                                 | 0                         |
|                                                     | 20                                                          | 20                                   |                                      |                                      |                                    |                           |
|                                                     | 20                                                          | 10, 15                               | 20                                   |                                      |                                    |                           |
|                                                     | 20                                                          | 20                                   | 10, 15                               |                                      |                                    |                           |
| CA_41C                                              | 10                                                          | 20                                   |                                      |                                      | 40                                 | 0                         |
|                                                     | 15                                                          | 15, 20                               |                                      |                                      |                                    |                           |
|                                                     | 20                                                          | 10, 15, 20                           |                                      |                                      |                                    |                           |
|                                                     | 5, 10                                                       | 20                                   |                                      |                                      | 40                                 | 1                         |
|                                                     | 15                                                          | 15, 20                               |                                      |                                      |                                    |                           |
|                                                     | 20                                                          | 5, 10, 15, 20                        |                                      |                                      |                                    |                           |
|                                                     | 10                                                          | 15, 20                               |                                      |                                      | 40                                 | 2                         |
|                                                     | 15                                                          | 10, 15, 20                           |                                      |                                      |                                    |                           |
|                                                     | 20                                                          | 10, 15, 20                           |                                      |                                      |                                    |                           |
|                                                     | 10                                                          | 20                                   |                                      |                                      | 40                                 | 3                         |
|                                                     | 20                                                          | 20                                   |                                      |                                      |                                    |                           |
| CA_41D                                              | 10                                                          | 20                                   | 15                                   |                                      | 60                                 | 0                         |



|  |    |            |        |  |  |
|--|----|------------|--------|--|--|
|  | 10 | 15, 20     | 20     |  |  |
|  | 15 | 20         | 10, 15 |  |  |
|  | 15 | 10, 15, 20 | 20     |  |  |
|  | 20 | 15, 20     | 10     |  |  |
|  | 20 | 10, 15, 20 | 15, 20 |  |  |

NOTE 1: The CA configuration refers to an operating band and a CA bandwidth class specified in Table 5.6A-1 (the indexing letter). Absence of a CA bandwidth class for an operating band implies support of all classes.  
 NOTE 2: For the supported CC bandwidth combinations, the CC downlink and uplink bandwidths are equal.  
 NOTE 3: Uplink CA configurations are the configurations supported by the present release of specifications.

#### Inter-band CA configurations

| E-UTRA CA Configuration | E-UTRA Bands | 1.4 MHz                                                    | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz | Maximum aggregated bandwidth [MHz] | Bandwidth combination set |
|-------------------------|--------------|------------------------------------------------------------|-------|-------|--------|--------|--------|------------------------------------|---------------------------|
| CA_2A-5A                | 2            |                                                            |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 0                         |
|                         | 5            |                                                            |       | Yes   | Yes    |        |        |                                    |                           |
|                         | 2            |                                                            |       | Yes   | Yes    |        |        | 20                                 | 1                         |
|                         | 5            |                                                            |       | Yes   | Yes    |        |        |                                    |                           |
| CA_2A-12A               | 2            |                                                            |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 0                         |
|                         | 12           |                                                            |       | Yes   | Yes    |        |        |                                    |                           |
|                         | 2            |                                                            |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 1                         |
|                         | 12           |                                                            | Yes   | Yes   | Yes    |        |        |                                    |                           |
|                         | 2            |                                                            |       | Yes   | Yes    |        |        | 20                                 | 2                         |
|                         | 12           |                                                            |       | Yes   | Yes    |        |        |                                    |                           |
| CA_2A-12B               | 2            |                                                            |       | Yes   | Yes    | Yes    | Yes    | 35                                 | 0                         |
|                         | 12           | See CA_12B Bandwidth Combination Set 0 in table 5.4.2A.1-1 |       |       |        |        |        |                                    |                           |
| CA_2A-17A               | 2            |                                                            |       | Yes   | Yes    |        |        | 20                                 | 0                         |
|                         | 17           |                                                            |       | Yes   | Yes    |        |        |                                    |                           |
| CA_4A-5A                | 4            |                                                            |       | Yes   | Yes    |        |        | 20                                 | 0                         |
|                         | 5            |                                                            |       | Yes   | Yes    |        |        |                                    |                           |
|                         | 4            |                                                            |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 1                         |
|                         | 5            |                                                            |       | Yes   | Yes    |        |        |                                    |                           |
| CA_4A-12A               | 4            | Yes                                                        | Yes   | Yes   | Yes    |        |        | 20                                 | 0                         |
|                         | 12           |                                                            |       | Yes   | Yes    |        |        |                                    |                           |
|                         | 4            | Yes                                                        | Yes   | Yes   | Yes    | Yes    | Yes    | 30                                 | 1                         |
|                         | 12           |                                                            |       | Yes   | Yes    |        |        |                                    |                           |
|                         | 4            |                                                            |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 2                         |
|                         | 12           |                                                            | Yes   | Yes   | Yes    |        |        |                                    |                           |
|                         | 4            |                                                            |       | Yes   | Yes    |        |        | 20                                 | 3                         |
|                         | 12           |                                                            |       | Yes   | Yes    |        |        |                                    |                           |
|                         | 4            |                                                            |       | Yes   | Yes    | Yes    | Yes    | 30                                 | 4                         |





|           |    |                                                            |     |     |     |     |     |    |   |
|-----------|----|------------------------------------------------------------|-----|-----|-----|-----|-----|----|---|
|           | 12 |                                                            |     | Yes | Yes |     |     | 20 | 5 |
|           | 4  |                                                            |     | Yes | Yes | Yes |     |    |   |
|           | 12 |                                                            |     | Yes |     |     |     |    |   |
| CA_4A-12B | 4  |                                                            |     | Yes | Yes | Yes | Yes | 35 | 0 |
|           | 12 | See CA_12B Bandwidth Combination Set 0 in Table 5.4.2A.1-1 |     |     |     |     |     |    |   |
| CA_4A-17A | 4  |                                                            |     | Yes | Yes |     |     | 20 | 0 |
|           | 17 |                                                            |     | Yes | Yes |     |     |    |   |
| CA_5A-7A  | 5  | Yes                                                        | Yes | Yes | Yes |     |     | 30 | 0 |
|           | 7  |                                                            |     |     | Yes | Yes | Yes |    |   |
|           | 5  |                                                            |     | Yes | Yes |     |     | 30 | 1 |
|           | 7  |                                                            |     |     | Yes | Yes | Yes |    |   |
| CA_7A-12A | 7  |                                                            |     | Yes | Yes | Yes | Yes | 30 | 0 |
|           | 12 |                                                            |     | Yes | Yes |     |     |    |   |

Note:

- 1) For the inter-band CA combinations, Except CA\_4A-12A, CA\_4A-12B, CA\_4A-17A, B12/B17 cannot be PCC, other the listed bands above can be used as PCC or SCC.
- 2) The channel spacing and aggregated channel bandwidth for CA are identical to the associated specification in 3GPP TS 36.101 V13.5.0 (2016-09).
- 3) The reference test frequencies for CA refers to 3GPP TS 36.508 V13.1.0(2016-09)

### 5.3.8 Dynamic Antenna Switching for 2G/3G/4G Antennas

The device supports the dynamic antenna switching function to optimize transmission efficiency for wide range frequency operations. It has two 2G/3G/4G Tx antennas (Main Antenna and Secondary Antenna). It can transmit from either Main Antenna (Ant1) or Secondary Antenna (Ant 2).

The device used a DPDT (Double Pole Double Throw) switch to achieve a dynamic antenna switching which is based on the antennas RSSI (Received Signal Strength Indication) comparison and Switch Algorithm. The antenna switching threshold is set to a fixed value (3 dB). The software will choose the Antenna with better RSSI as the main operating Tx antenna by comparing the RSSI between Ant1 and Ant 2. When the RSSI of Ant2 is 3 dB higher than Ant1, then the Ant2 will be chosen as the main operating Tx antenna. The switching will refer to all of the 2G/3G/4G operation bands.



The fixture is as below:

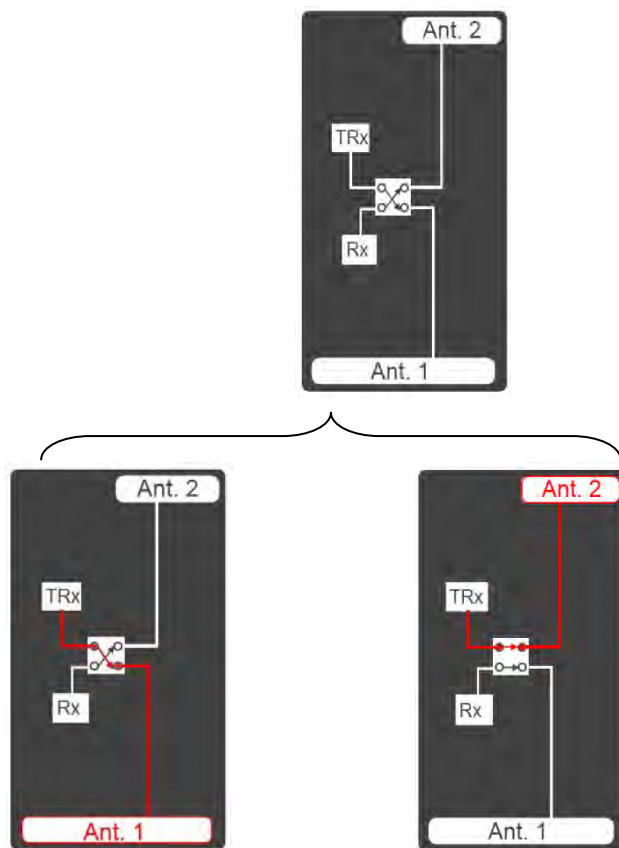


Fig 5.3.8-1 The Main Antenna (Ant1) and Secondary Antenna (Ant 2) support the same 2G/3G/4G operating bands. They have the same RF access.

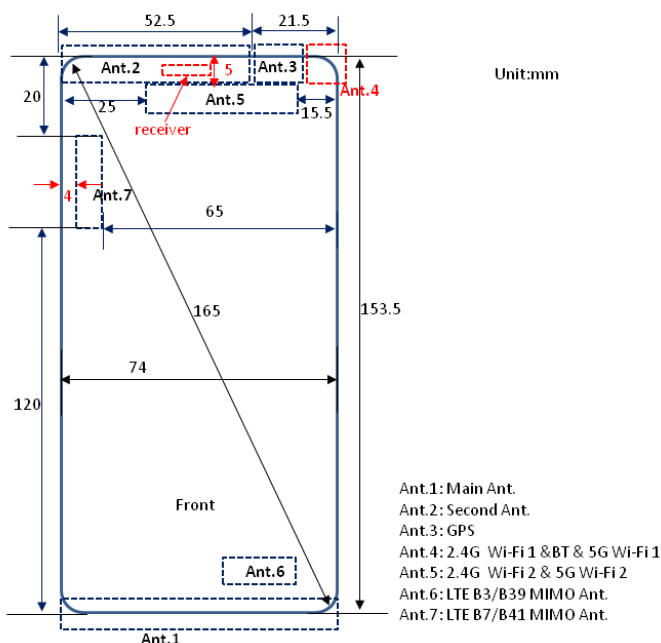


Fig 5.3.8-2 The Main Antenna (Ant1) and Secondary Antenna (Ant 2) support the same 2G/3G/4G operating bands. Main antenna (Ant1) and Secondary antenna (Ant 2) can't transmit simultaneously which will be chosen based on the RSSI. Only one antenna can be used for 2G/3G/4G transmission at a time. Ant.6 and Ant.7 can only support Rx function, Ant.6 supports DL LTE 4\*4 MIMO (Band LTE



B3 and LTE B39), Ant.7 supports DL LTE 4\*4 MIMO (Band LTE B7 and LTE B41).

For Dynamic antenna switching SAR test, set the Main Antenna / Secondary Antenna to the MAX transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions. Some AT commands or test scripts are supplied to fix the DPDT operation state and choose the antenna, so that only one TX antenna (the Main Antenna or Secondary Antenna) is chosen at a time. All independent antennas and modems will be completely covered by the appropriate SAR measurements and all simultaneous transmission possibilities will be fully considered.

### 5.3.9 Dynamic Antenna Switching and WIFI CDD Techniques for WIFI Antennas

#### 5.3.9.1 WiFi dynamic switching

The device also supports the dynamic antenna switching function for 802.11b 2.4G WiFi .The device has two Wi-Fi Tx antennas (Main Wi-Fi &BT antenna and Sub WiFi Antenna). The 802.11b Wi-Fi dynamic switching is based on diversity technology. In 802.11b diversity mode, Wi-Fi function is able to judge the one of the two paths with the higher RSSI and select it as the Tx/Rx path dynamically in order to gain the best performance. The switch status hasn't any influence to RF conducted parameters. 802.11b Main Wi-Fi antenna and 802.11b Sub Wi-Fi Antenna can not transmit simultaneously.

**Switch condition:** Select the path based on higher RSSI of the antennas. Just the emission path is switched between two fixed antennas.

For 802.11b Wi-Fi SAR test, set the Main Wi-Fi Antenna / Sub Wi-Fi Antenna to the MAX transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions per KDB248227D01. Only one Wi-Fi TX antenna is chosen at a time.It is conservative enough to ensure the SAR compliance.

#### 5.3.9.2 802.11g/a WIFI CDD Techniques and 802.11 n/ac MIMO

CDD is able to be adopted in the product when Wi-Fi working in 802.11g/a mode.

CDD is a kind of transmit diversity mechanism implemented by applying a different phase delay (cyclic phase delay) for each OFDM subcarrier.

It is used in spatial multiplexing to increase diversity between the two spatial paths.

In CDD mode, both of the Wi-Fi Tx antennas are transmitting the same information with the same data rate, at the same channel and the same time.

CDD means it is not one but two paths of Wi-Fi transmitting at the same time.

For 802.11n/ac modes, the device supports both Wi-Fi MIMO mode and Wi-Fi SISO mode. In Wi-Fi SISO mode, only one antenna transmits at a time, it can be the main Wi-Fi antenna or the sub Wi-Fi antenna. In Wi-Fi MIMO mode, two Wi-Fi antennas transmit at the same time.

| Wireless technology | Supporting Bands and Modes                          |
|---------------------|-----------------------------------------------------|
| WLAN SISO           | WiFi 2.4G 802.11b/11g/11n, WiFi 5G 802.11a/11n/11ac |
| WLAN MIMO           | WiFi 2.4G 802.11n, WiFi 5G 802.11n/11ac             |
| WLAN CDD            | WiFi 2.4G 802.11g, WiFi 5G 802.11a                  |

For 802.11g/a WIFI CDD and 802.11n/ac Wi-Fi MIMO SAR test, only the scenario two Wi-Fi antenna transmitting at the same time are supported and need to be considered. The common Initial Test Position and OFDM Initial Test Configuration Procedures per KDB 248227D01 are applied for 2.4G Wi-Fi 802.11g/n and 5G Wi-Fi 802.11a/n/ac SAR test respectively in all applicable RF exposure conditions.

### 5.3.10 Proximity Sensor Configuration

This device uses one sensor chip and two proximity sensors (metallic electrode) to reduce the maximum output power in selected wireless mode and operating configurations to ensure SAR compliance. The two sensors are applied to one same 2G/3G/4G main antenna. One proximity sensor shares the same metallic electrode with the 2G/3G/4G main antenna and the other is a floating metal sheet, which has a minor offset from the main antenna. The two proximity sensors (metallic electrode) are called as proximity sensor channel-1 and proximity sensor channel-2. The sensors implementation can identify and facilitate triggering different max power levels for different scenarios including the device held by hand (Extremity) and different exposure test positions test positions (Front side/Back side/Bottom side) when the device is closed to a user's body. The main purpose for the implementation is to distinguish the scenarios of Body and Extremity, minimize triggering associated with power reduction for different scenarios and provide enhanced user experience.

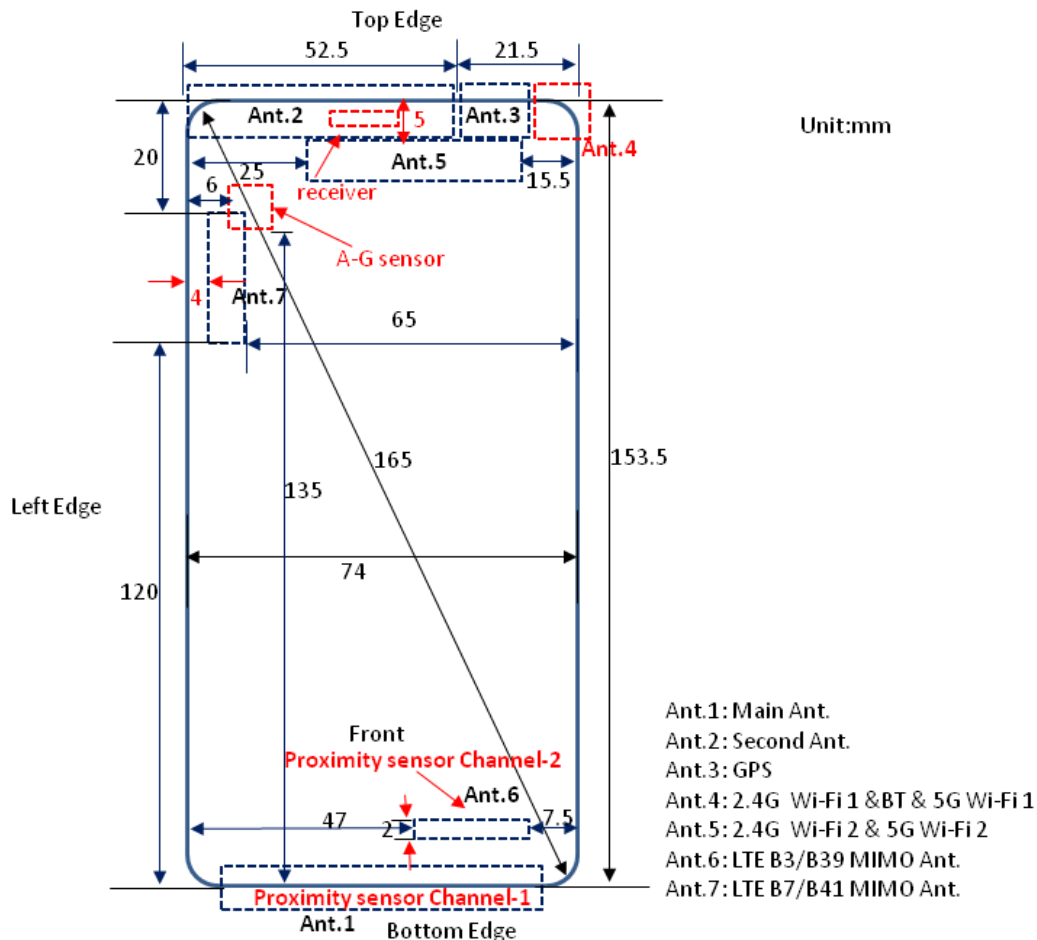


Fig 5.3.10-1 The location of the proximity sensor channel-1 and proximity sensor channel-2

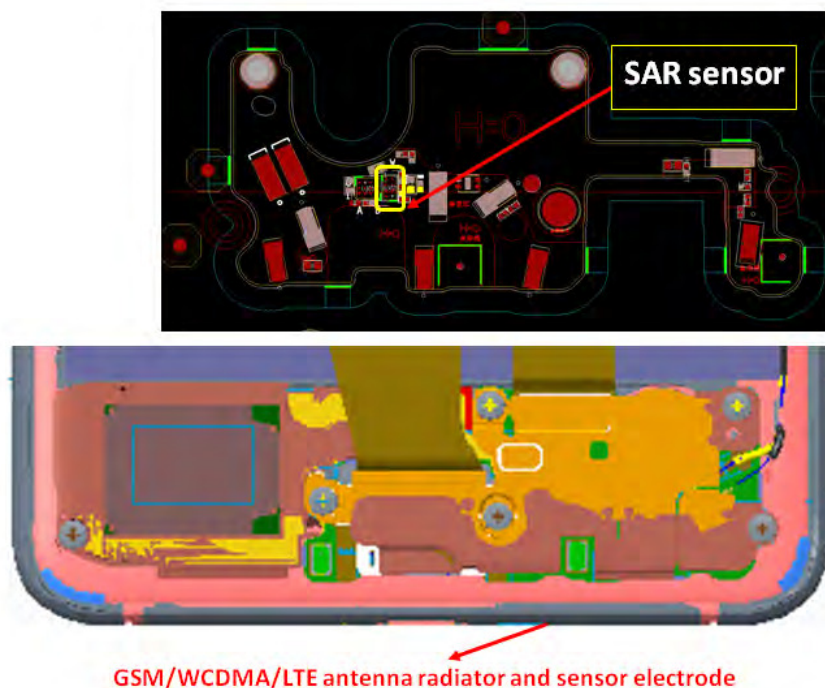


Fig. 5.3.10-2 The picture of the SAR sensor

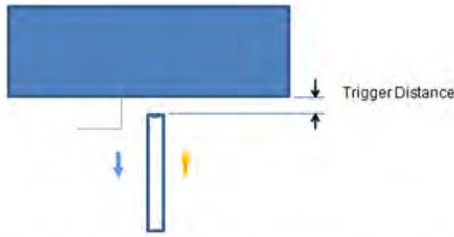
The two sensors power reduction implementation is applied to the same 2G/3G/4G main antenna. Capacitive proximity sensor shares a metallic electrode with the GSM, WCDMA and LTE antenna radiator as proximity sensor channel-1 and uses a MIMO antenna (Ant.6) at the same time as proximity sensor channel-2. The two metallic electrode and SAR sensor chip work as a sensor.

#### Antenna/Sensor-to-DUT sides separation distances

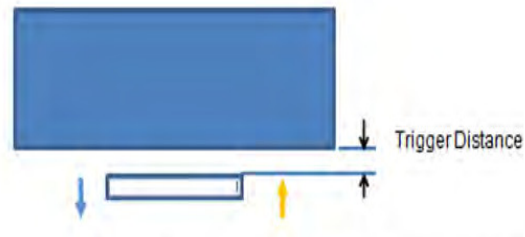
| Antenna/Sensor-to- DUT sides separation distances |                                                                          |           |           |            |          |             |
|---------------------------------------------------|--------------------------------------------------------------------------|-----------|-----------|------------|----------|-------------|
| Tx Antenna                                        | Front side                                                               | Back side | Left side | Right side | Top side | Bottom side |
| 2G&3G&4G Main Ant                                 | NA                                                                       | NA        | NA        | NA         | 153.5mm  | NA          |
| 2G&3G&4G Second Ant                               | NA                                                                       | NA        | NA        | 21.5mm     | NA       | 153.5mm     |
| 2.4G wifi1&BT&5G wifi1                            | NA                                                                       | NA        | 64mm      | NA         | NA       | 153.5mm     |
| 2.4G wifi2&5G wifi2                               | NA                                                                       | NA        | 25mm      | 15.5mm     | 5mm      | 141.4mm     |
| <i>proximity sensor channel-1</i>                 | NA                                                                       | NA        | NA        | NA         | 153.5mm  | NA          |
| <i>proximity sensor channel-2</i>                 | 6.5mm                                                                    | NA        | 47mm      | 7.5mm      | 142.5mm  | 5.5mm       |
| GPS antenna                                       | Only receive signal, so it was not figured out in the following pictures |           |           |            |          |             |

#### 1) Proximity sensor triggering distances (Per KDB616217 §6.2)

Proximity sensor triggering distance testing was performed as the EUT moving further away from the phantom were both assessed.



Picture: Proximity sensor triggering distances assessment Bottom Side



Picture: Proximity sensor triggering distances assessment Front Side and Back side

**Fig 5.3.10-3 proximity sensor triggering distances assesment**

① Table: Summary of Trigger Distances

| Main<br>2G&3G&4G<br>Antenna | Trigger distance – bottom<br>edge |                           | Trigger distance – back<br>side |                           | Trigger distance – front<br>side |                           |
|-----------------------------|-----------------------------------|---------------------------|---------------------------------|---------------------------|----------------------------------|---------------------------|
|                             | Moving<br>toward<br>phantom       | Moving<br>from<br>phantom | Moving<br>toward<br>phantom     | Moving<br>from<br>phantom | Moving<br>toward<br>phantom      | Moving<br>from<br>phantom |
| WCDMA B2                    | 9mm                               | 9mm                       | 8mm                             | 8mm                       | 7mm                              | 7mm                       |
| WCDMA B4                    | 9mm                               | 9mm                       | 8mm                             | 8mm                       | 7mm                              | 7mm                       |
| LTE B2                      | 9mm                               | 9mm                       | 8mm                             | 8mm                       | 7mm                              | 7mm                       |
| LTE B4                      | 9mm                               | 9mm                       | 8mm                             | 8mm                       | 7mm                              | 7mm                       |
| LTE B7                      | 9mm                               | 9mm                       | 8mm                             | 8mm                       | 7mm                              | 7mm                       |

② Table: Reduced power (Moving toward phantom)

| Main<br>2G&3G&4G<br>Antenna | Position    | Power Reduction Status (dBm) |      |      |      |      |      |      |      |      |      |      |
|-----------------------------|-------------|------------------------------|------|------|------|------|------|------|------|------|------|------|
|                             |             | 20                           | 17   | 14   | 12   | 11   | 10   | 9    | 8    | 7    | 6    | 5    |
| WCDMA B2                    | Bottom edge | 23.7                         | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 |
| WCDMA B4                    | Bottom edge | 23.5                         | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
| LTE B2                      | Bottom edge | 23.7                         | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| LTE B4                      | Bottom edge | 23.6                         | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 21.3 | 21.3 | 21.3 | 21.3 | 21.3 |
| LTE B7                      | Bottom edge | 23.6                         | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 |
| /                           | /           | 20                           | 17   | 14   | 11   | 10   | 9    | 8    | 7    | 6    | 5    | 4    |
| WCDMA B2                    | Back side   | 23.7                         | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 |
| WCDMA B4                    | Back side   | 23.5                         | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
| LTE B2                      | Back side   | 23.7                         | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| LTE B4                      | Back side   | 23.6                         | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 21.3 | 21.3 | 21.3 | 21.3 | 21.3 |
| LTE B7                      | Back side   | 23.6                         | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 |
| /                           | /           | 20                           | 17   | 14   | 11   | 9    | 8    | 7    | 6    | 5    | 4    | 3    |
| WCDMA B2                    | Front side  | 23.7                         | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 |
| WCDMA B4                    | Front side  | 23.5                         | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
| LTE B2                      | Front side  | 23.7                         | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| LTE B4                      | Front side  | 23.6                         | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 21.3 | 21.3 | 21.3 | 21.3 | 21.3 |
| LTE B7                      | Front side  | 23.6                         | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 |

③ Table: Full power (Moving from phantom)

| Main<br>2G&3G&4<br>G Antenna | Position    | Power Reduction Status (dBm) |      |      |      |      |      |      |      |      |      |      |
|------------------------------|-------------|------------------------------|------|------|------|------|------|------|------|------|------|------|
|                              |             | 23                           | 20   | 17   | 14   | 11   | 10   | 9    | 8    | 6    | 3    | 0    |
| WCDMA B2                     | Bottom edge | 23.7                         | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 |
| WCDMA B4                     | Bottom edge | 23.5                         | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
| LTE B2                       | Bottom edge | 23.7                         | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| LTE B4                       | Bottom edge | 23.6                         | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 21.3 | 21.3 | 21.3 | 21.3 | 21.3 |
| LTE B7                       | Bottom edge | 23.6                         | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 |
| /                            | /           | 22                           | 19   | 16   | 13   | 10   | 9    | 8    | 7    | 6    | 3    | 0    |
| WCDMA B2                     | Back side   | 23.7                         | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 |
| WCDMA B4                     | Back side   | 23.5                         | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
| LTE B2                       | Back side   | 23.7                         | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| LTE B4                       | Back side   | 23.6                         | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 21.3 | 21.3 | 21.3 | 21.3 | 21.3 |
| LTE B7                       | Back side   | 23.6                         | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 |
| /                            | /           | 21                           | 18   | 15   | 12   | 9    | 8    | 7    | 6    | 5    | 3    | 0    |
| WCDMA B2                     | Front side  | 23.7                         | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 22.8 | 22.8 | 22.8 | 22.8 | 22.8 |
| WCDMA B4                     | Front side  | 23.5                         | 23.5 | 23.5 | 23.5 | 23.5 | 23.5 | 21.0 | 21.0 | 21.0 | 21.0 | 21.0 |
| LTE B2                       | Front side  | 23.7                         | 23.7 | 23.7 | 23.7 | 23.7 | 23.7 | 22.6 | 22.6 | 22.6 | 22.6 | 22.6 |
| LTE B4                       | Front side  | 23.6                         | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 21.3 | 21.3 | 21.3 | 21.3 | 21.3 |
| LTE B7                       | Front side  | 23.6                         | 23.6 | 23.6 | 23.6 | 23.6 | 23.6 | 22.0 | 22.0 | 22.0 | 22.0 | 22.0 |

Note: 1) SAR tests with proximity sensor power reduction are only required for back, front and bottom side of main antenna with WCDMA B2/B4 and LTE B2/B4/B7. For the other sides or other frequency bands of the device, the proximity sensor is not triggered. Therefore, the proximity sensor coverage is not evaluated on these orientations.

## 2) proximity sensor coverage (Per KDB616217 §6.3)

a) All the sides/edges (bottom side, front side and back side of the device) is positioned at a test separation distance less than or equal to the distance required for sensor triggering, with both the antenna and sensor pad located at least 20 mm laterally outside the edge (boundary) of the phantom, along the direction of maximum antenna and sensor offset.

Each applicable edge should be positioned perpendicularly to the phantom to determine sensor coverage. For antennas and/or sensors located near the corner of a tablet, both adjacent edges must be considered.

b) The similar sequence of steps applied to determine sensor triggering distance in 1) are used to verify the sensor coverage by moving the DUT (sensor and antenna) horizontally toward the phantom while maintaining the same vertical separation between the side or edge and the phantom.

c) After the exact location where triggering of power reduction is determined, with respect to the sensor and antenna, the DUT movement should be continued, in 3 mm increments, until both the sensor and antenna(s) are fully under the phantom and at least 20 mm inside the phantom edge.

d) The process is then repeated from the opposite direction, starting at the other end of the maximum antenna and sensor offset, by rotating the DUT 180° along the vertical axis.

e) The triggering points should be documented graphically, with the antenna and sensor clearly



identified, along with all relevant dimensions.

f) If the subsequently measured peak SAR location for the antenna is not between the triggering points, established by the sensor coverage tests from opposite ends of the antenna and sensor, additional SAR tests may be required for conditions where only part of the surface or edge of the DUT corresponding to the antenna is in proximity to the user and the sensor may not be triggering as desired.

The plane coordinate system on the DUT as below:

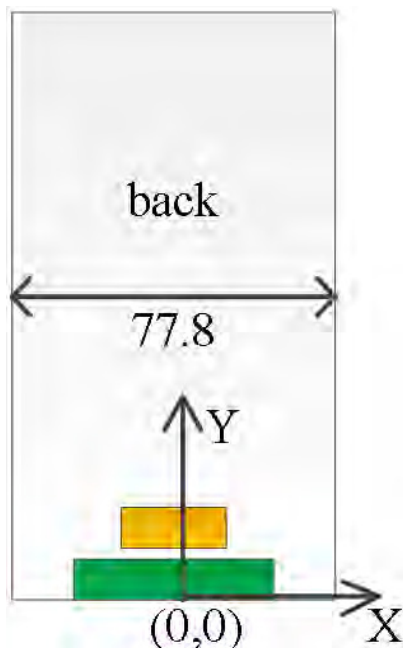


Fig 5.3.10-4 Plane coordinate system definition on the DUT

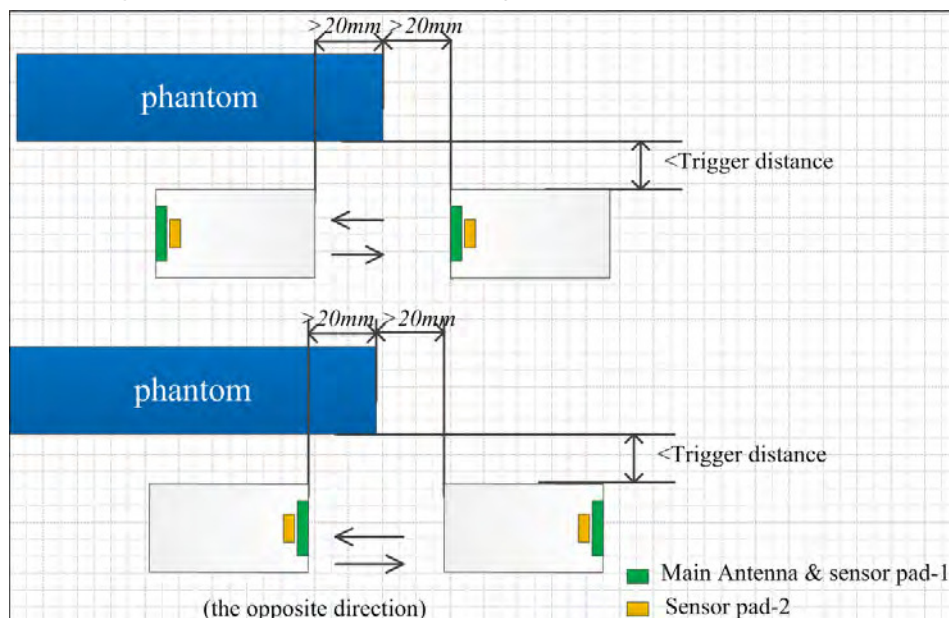
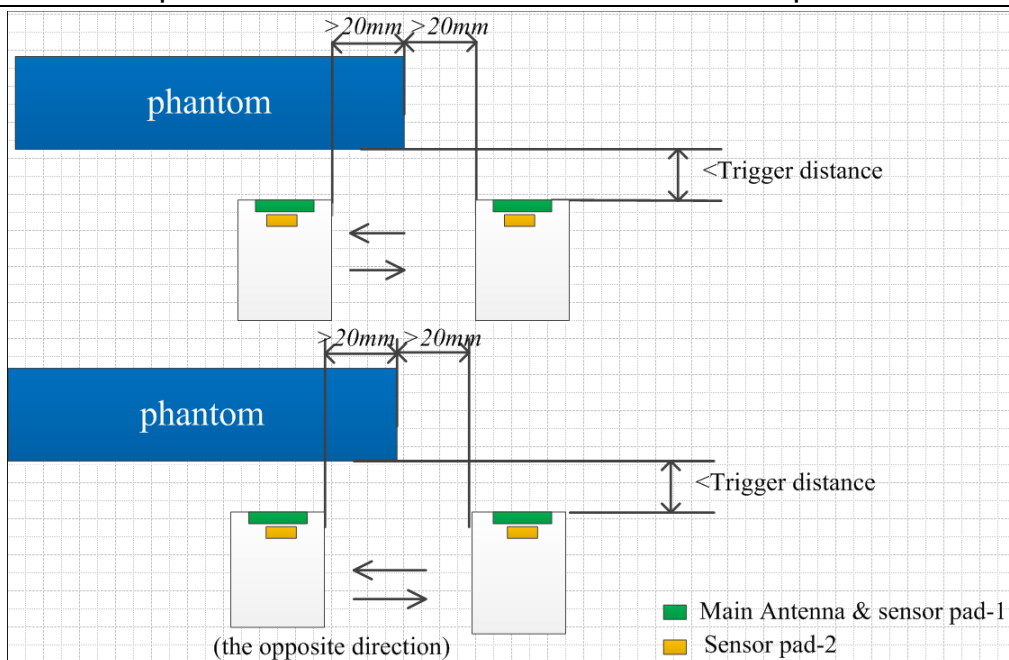


Fig 5.3.10-5 proximity sensor coverage assesment (Front side/back side)



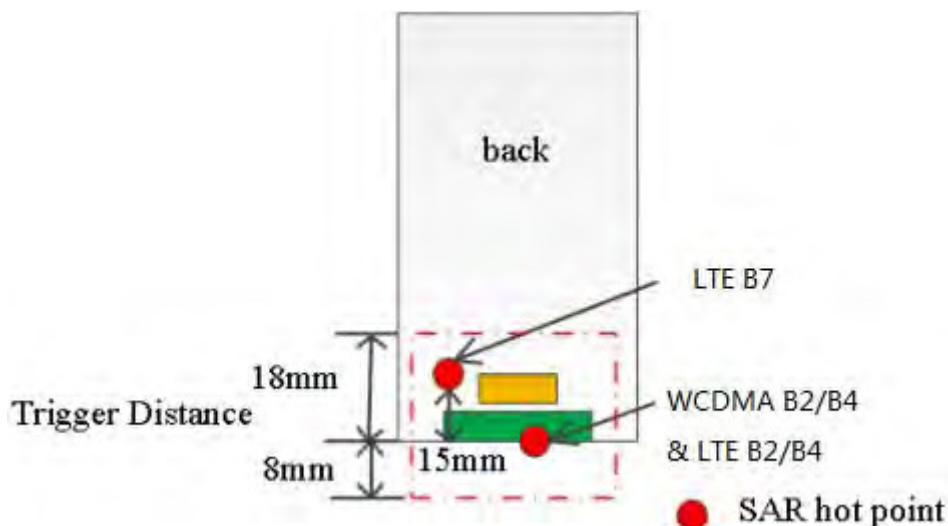
**Fig 5.3.10-6 proximity sensor coverage assesment (Bottom adge)**

**The validation data for determining proximity sensor coverage is as below:**

Note 1: During the sensor coverage validation below, the DUT is positioned at a test separation distance less than or equal to the distance required for sensor triggering (0mm for the lowest power stage level).

Note 2: In the following validation data graphs, the relative coordinates (Unit: mm) is used to show the sensor coverage distance of triggering points:

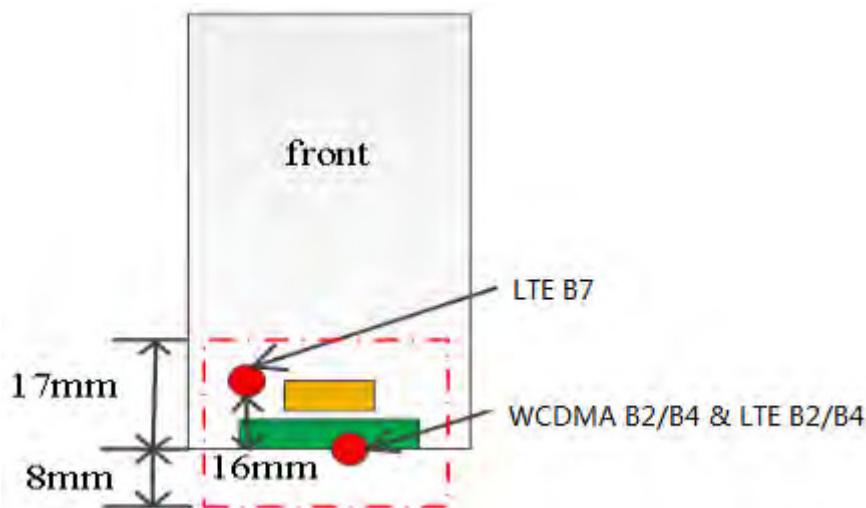
① **proximity sensor coverage assesment results(Back side) :**



**Conclusion:** As the subsequently measured peak SAR location for the antenna is between the triggering points, additional SAR tests is not required for conditions for the back side.

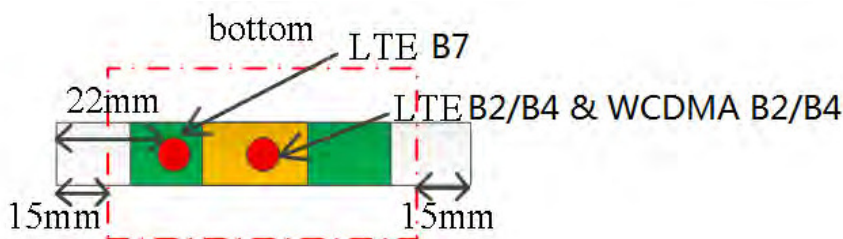
② **proximity sensor coverage assesment results(Front side) :**





**Conclusion:** As the subsequently measured peak SAR location for the antenna is between the triggering points, additional SAR tests is not required for conditions for the front side.

③ **proximity sensor coverage assesment results(Bottom edge) :**

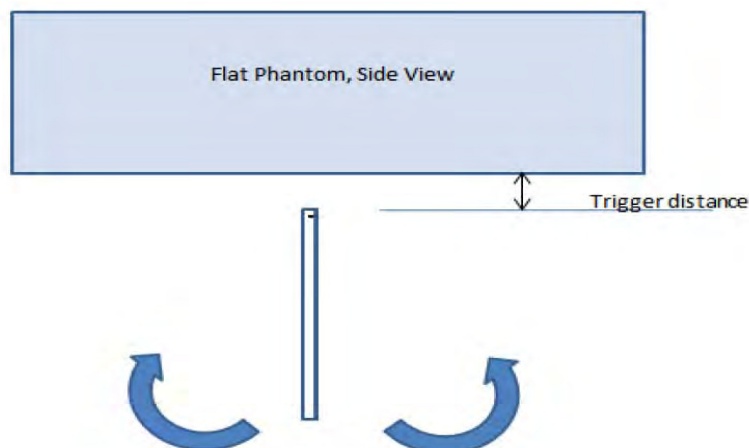


**Conclusion:** As the subsequently measured peak SAR location for the antenna is between the triggering points, additional SAR tests is not required for conditions for the bottom side.

3) **Tilt angle influences to proximity sensor triggering** (Per KDB616217 §6.4)

The DUT was positioned directly below the flat phantom at the minimum measured trigger distance with Bottom side parallel to the base of the flat phantom for each band.

The EUT was rotated about Bottom side for angles up to  $\pm 45^\circ$ . If the output power increased during the rotation the DUT was moved 1mm toward the phantom and the rotation repeated. This procedure was repeated until the power remained reduced for all angles up to  $\pm 45^\circ$ .



**Fig 5.3.10-7 proximity sensor coverage assesment (Bottom side)**
**Table: Summary of Tablet Tilt Angle Influence to Proximity Sensor Triggering (Bottom side)**

| Main<br>2G&3G&4G<br>Antenna | Minimum trigger<br>distance at which<br>power reduction<br>was maintained<br>over $\pm 45^\circ$ | Power Reduction Status |      |      |      |     |    |    |     |     |     |     |  |
|-----------------------------|--------------------------------------------------------------------------------------------------|------------------------|------|------|------|-----|----|----|-----|-----|-----|-----|--|
|                             |                                                                                                  | -45°                   | -35° | -25° | -15° | -5° | 0° | 5° | 15° | 25° | 35° | 45° |  |
| WCDMA B1                    | 9mm                                                                                              | on                     | on   | on   | on   | on  | on | on | on  | on  | on  | on  |  |
| WCDMA B4                    | 9mm                                                                                              | on                     | on   | on   | on   | on  | on | on | on  | on  | on  | on  |  |
| LTE B2                      | 9mm                                                                                              | on                     | on   | on   | on   | on  | on | on | on  | on  | on  | on  |  |
| LTE B4                      | 9mm                                                                                              | on                     | on   | on   | on   | on  | on | on | on  | on  | on  | on  |  |
| LTE B7                      | 9mm                                                                                              | on                     | on   | on   | on   | on  | on | on | on  | on  | on  | on  |  |

**Conclusion:** As is shown from the validation data, it can be ensured that the proximity sensor can be valid triggered for the DUT tilt coverage exposure condition (WCDMA B2/B4, LTE B2/B4/B7 with Main 2G&3G&4G Antenna).

#### 4) Summary SAR test Plan for Proximity sensor power reduction

Per KDB616217, to ensure all production units are compliant, the smallest separation distance determined by the sensor triggering and sensor coverage for normal and tilt positions for all usage conditions, minus 1 mm, must be used as the test separation distance for **additional SAR testing** with sensor off.

For this device, 6mm is used as the more conservative test separation distance for **additional SAR testing** with sensor off.

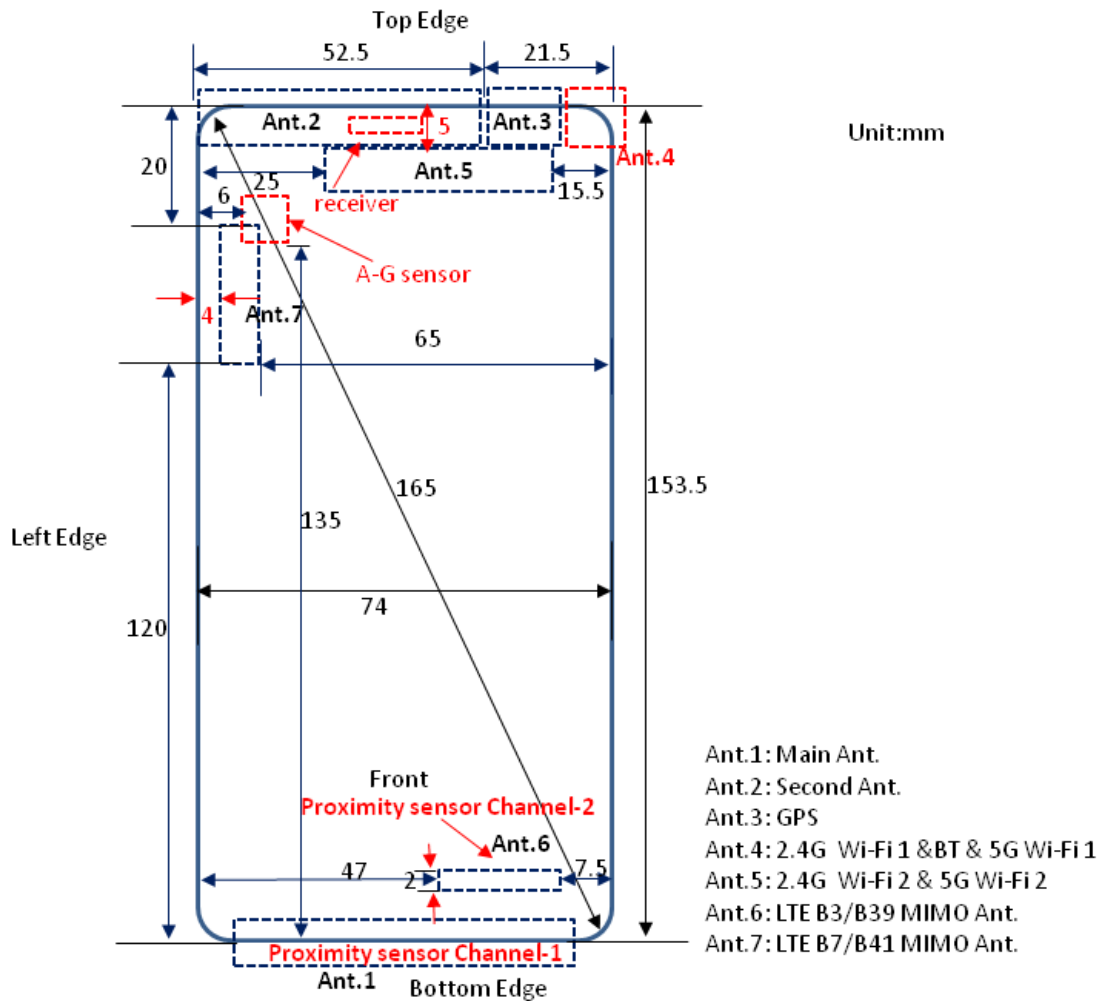
#### 5.3.11 A-G Sensor & An Audio Receiver Detection Configuration

The device supporting the Accelerometer & Gyroscope sensor & an audio receiver detection mechanism. The audioreceiver is used to determine head or body scenario. The A-G sensor is used just to determine proximity to Left or Right head scenario and is different from capacitance sensor. The relevant power levels are set for 2G&3G&4G and Wi-Fi antennas accordingly.

**Table1: Summary of A-G sensor & an audio receiver detection mechanism**

| Antenna                | Receiver on<br>(Left head<br>scenario) | Receiver on<br>(Right head<br>scenario) | Receiver on<br>(Unknown Left or right<br>scenario) | Receiver off<br>(Body/other<br>scenario) |
|------------------------|----------------------------------------|-----------------------------------------|----------------------------------------------------|------------------------------------------|
| 2G&3G&4G<br>second ant | Power Level A1                         | Power Level B1                          | Power Level Min (A1:B1)                            | Power Level C1                           |
| 2G&3G&4G<br>main ant   | Power Level A2                         | Power Level B2                          | Power Level Min (A2:B2)                            | Power Level C2                           |
| WiFi Ant               | Power Level A3                         | Power Level B3                          | Power Level Min (A3:B3)                            | Power Level C3                           |

**Note:** A-G is the abbreviation of Accelerometer & Gyroscope.

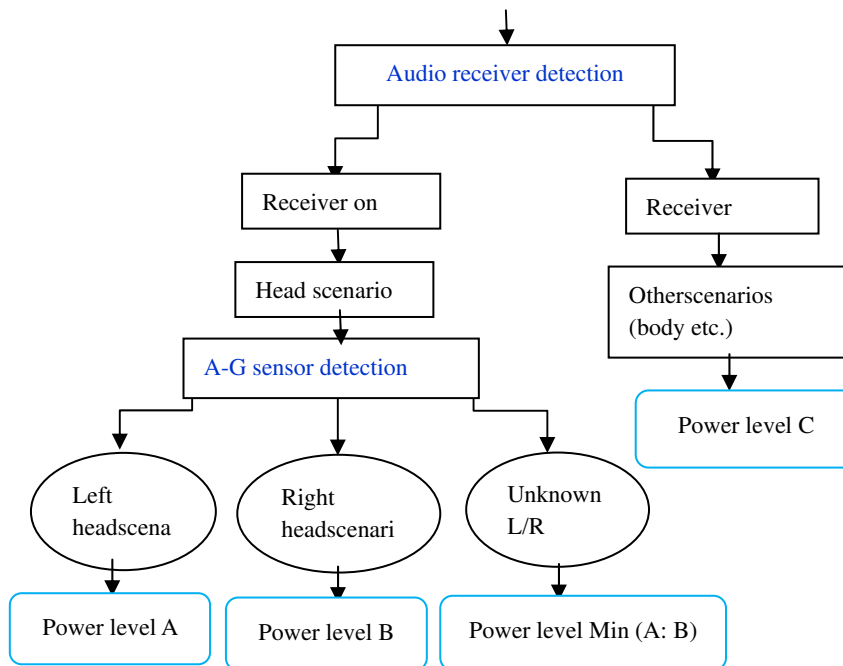


**Fig 5.3.11-1 The location of the antennas and A-G sensor& Audio Receiver**

#### 5.3.11.1 The A-G sensor & an audio receiver detection is accomplished by voice call from the modem is shown as below:

- When the modem works, it will detect the state of receiver. If the audio receiver is off, it is considered not as Held to Head (ear) scenario and regarded as other scenarios (Body etc.). The power level C is applied.
- When the modem chip detects that the state of the audio receiver is on, at this time it is considered as Held to Head (ear) scenario. Then the modem chip reads the information of the A-G sensor which state it is on, Left head scenario, Right head scenario or Unknown L/R head, and the relevant power A,B or min (A:B) will be applied.

Note: The power level A, B and C can be set to the same or different.



**Fig 5.3.11-2 A-G sensor & receiver detection**

### 5.3.11.2 Audio Receiver detection mechanism clarifications

- When there is a voice call (including VOIP&VOLTE) and the modem chip detects that the Headset is unconnected and speaker is off, then the audio receiver is triggered and it is considered as Held to ear scenario (Head). Then the A-G sensor detects whether it is left head or right head.
- When there is a voice call, but the headset is connected or speaker mode is on, the audio receiver will not work. It is considered as other scenarios (Body etc.) and the Power C will be applied.
- When there is a data mode, the audio receiver will not work. It is considered as other scenarios (Body etc.) and the Power C will be applied.

### 5.3.11.3 The logic of A-G sensor detection is shown as below:

- When there is a call under the state of receiver on, the phone is answered and put near to the head. At this time, it is defined as Motorial branch, the Complex Datagives the information ofwhich scenario Phone is at.Namely, Negative is Left head scenario, Positive is Right head scenario, and the relevant power level A, B will be applied. Also, if it is can't read the Complex Data information, the power level min (A, B) will be applied and it is thought as unknown.
- When the phone is at head side, it is going on Stationary branch to modify. At this time, the rollangle gives the information of which scenario Phone is at. Namely, Ang.1 is Left head scenario, Ang.2 is Right head scenario, and the relevant power level A, B will be applied. Also, if it is can't read the roll angle information or the roll angle is out of the range of judgment, the power level min (A, B) will be applied and it is thought as unknown.

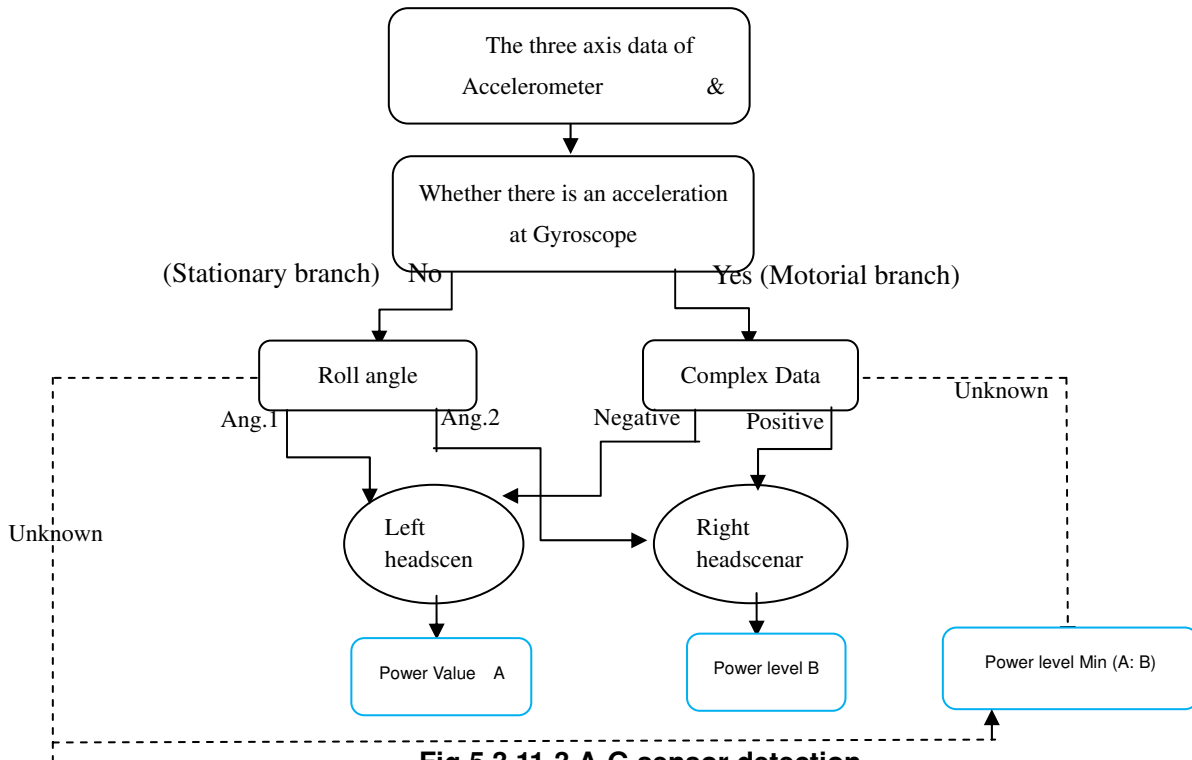


Fig 5.3.11-3 A-G sensor detection

**NORM:** Sum Vector of 3 axis of GYRO

**Complex Data:** GYRO X-Vector\* GYRO Z-Vector\* NORM

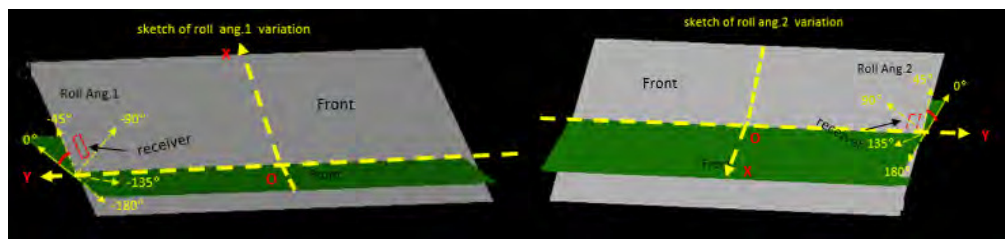
**Roll angle:** The data merge of 3-axis of Accelerometer & Gyroscopeto the earth-surface inertial reference frame.

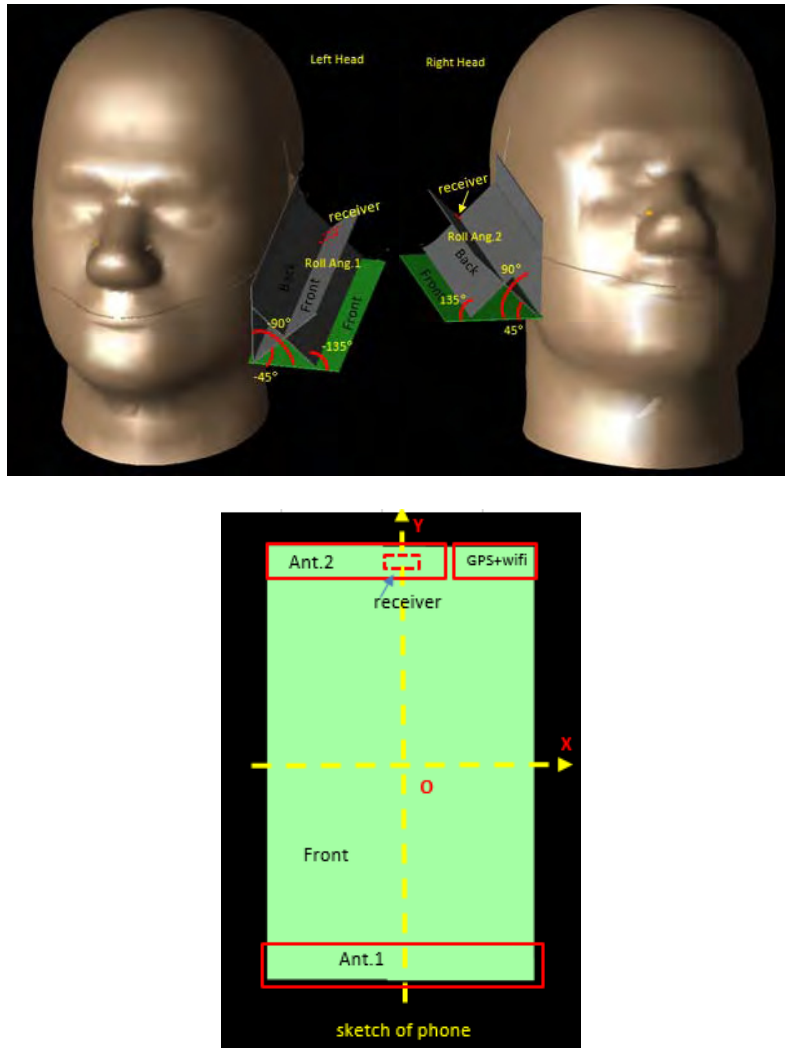
The sketch of Roll angle is marked as Fig 5.3.11-4. The Roll angel is considered as the angel rotation around OY axis and the

reference is earth-surface horizontal plane. The Roll angle is the angle between the Green plane and Dark plane shown as Fig 5.3.11-4. Also the sketch of Roll angle at head side is given.

**Ang.1:** -45°~-135°

**Ang.2:** 45°~135°





**Fig 5.3.11-4Sketch of phone roll angel**

If the Phone is no any movement during answering the call. At this time it is can't read the Complex Data information, the power level min (A, B) will be applied and it is thought as unknown.

If there is any failure on the A-G sensor hardware, the sensor information data will not be reported. At this time, the power level min (A, B) will be applied and it is also thought as unknown state.

The device offers Power- back off Parameters to meet different applied SAR scenarios. These Parameters control max output power of main modem for 2G/3G/4G bands and WIFI. The A-G sensor only works in voice and receiver on mode (Headset unconnected and speaker mode off), like GSM, CDMA 1X, VOLTE, WCDMA, and VOIP. (VOLTE and VOIP based on the operation of different telecom carriers services .When users take voice services like above, Power back off will be applied immediately according to different A-G sensor state. And if other third party software applications such as VOIP software can also trigger receiver, TX power can also be reduced according to different A-G sensor state.)

The power-back off of device will give result to reduce the conductive power and then transmit through internal antenna.

Power back-offtable:



| ANT2 power back-off(dB) | GSM 850 | GSM 1900 | WCDMA B2 | WCDMA B4 | WCDMA B5 | LTE B2 | LTE B4 | LTE B5 | LTE B7 | LTE B12 | LTE B17 | LTE B26 | LTE B38 | LTE B41 |
|-------------------------|---------|----------|----------|----------|----------|--------|--------|--------|--------|---------|---------|---------|---------|---------|
| Rec on for left head    | 3.5     | 1        | 5        | 4        | 3.5      | 4.5    | 4.5    | 3      | 2.5    | 1       | 1       | 4       | 2       | 1.5     |
| Rec on for right head   | 4       | 4        | 7.5      | 7        | 4        | 7      | 7      | 3.5    | 7.5    | 1       | 1       | 3.5     | 8       | 7.5     |
| Rec off for body        | 0       | 0        | 2        | 0        | 0        | 2      | 1      | 0      | 2.5    | 0       | 0       | 0       | 0       | 0       |
| simultaneous            | 3       | 3        | 3        | 3        | 3        | 3      | 3      | 3      | 3      | 3       | 3       | 3       | 4       | 3       |
| ANT1 power back-off(dB) |         |          |          |          |          |        |        |        |        |         |         |         |         |         |
| Hotspot off             | 0       | 0        | 0        | 0        | 0        | 0      | 0      | 0      | 1.5    | 0       | 0       | 0       | 0       | 0       |
| Hotspot on              | 0       | 4        | 5.5      | 6        | 0        | 5      | 5.5    | 0      | 1      | 0       | 0       | 0       | 0       | 0       |
| 0mm                     | 0       | 0        | 1        | 2.5      | 0        | 1      | 2.5    | 0      | 1.5    | 0       | 0       | 0       | 0       | 0       |

#### 5.3.11.4 Based on the power reduction information above, for SAR test:

1) The Main Antenna and Second Antenna are set to the Max transmit power level respectively and test the SAR respectively in all applicable RF exposure conditions. Some AT commands or test scripts are supplied to fix the operation state and choose the antenna so that only one TX antenna is chosen and tested at a time.

2) **For conducted power test:** Both the full power and reduced power measurement results will be tested and provided in the SAR report to validate the power reduction function works

#### 3) For Head SAR test:

According to the real usage scenario, standalone Head SAR should be evaluated with audio receiver on:

a) **For left head scenario,** standalone Head SAR should be tested at power level A1/A2/A3 for 2G&3G&4G second ant, 2G&3G&4G main ant, WiFi Ant respectively

b) **For Right head scenario,** standalone Head SAR should be tested at power level B1/B2/B3 for 2G&3G&4G second ant, 2G&3G&4G main ant, WiFi Ant respectively

c) **For Unknown L/R head scenario,** the conservative SAR test results should be used for SAR compliance.

As the audio receiver only works in voice mode when the user is making a call in head scenario, and the lack of the third-party VoIP server and the unstandardized VOIP operating characteristics, so we're planning to do the Head SAR test of LTE DATA, WCDMA RMC mode through triggering the audio receiver on by test scripts in order to simulate the users' scene (LTE VOIP, WCDMA VOIP or data mode simultaneous Transmission with VoWifi) for Head SAR test of UMTS, LTE.

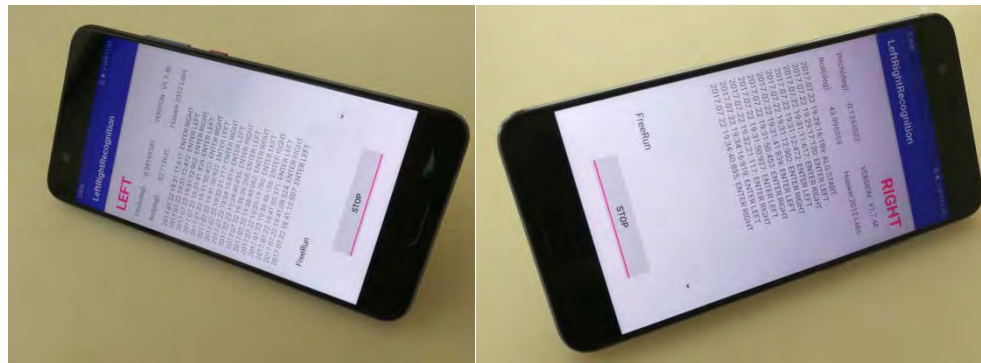
The test scripts function is only used to trigger audio receiver on and simulate voice and VOIP usage scene. It can be ensured that the unmodified settings in production units, including maximum output power, amplifier gain and other RF performance or tuning parameters, are used for SAR measurement. We can guarantee that the TX power and SAR value level during the test is the same as the actual user scenarios.

As the Phone is at horizontal plane, namely Roll angle is 0°, when it is test for head scenario, no matter left head or right head. The unknown scenario information will be read at the most time which will trigger the minimum power of A and B, and it cannot get the real left head or right head SAR data.

As is be considered, when the Phone is connected with simulate base station:

- For the left head Scenario, turning the Phone at any Roll angle during -45°~-135° to trigger the left head Scenario power, then put the phone at test Phantom to go the test.
- For the right head Scenario, turning the Phone at any Roll angle during 45°~135° to trigger the right head Scenario power, then put the phone at test Phantom to go the test.
- Also, an APK will be supplied to show the Scenario at the phone screen to ensure the results correctly during the test. The APK is only used to display the Scenario of Phone. At the left head Scenario it will show "left head" and at the right head Scenario it will show "Right head" at the Phone Screen. (shown as Fig 5.3.11-5)
  - Turn the Phone to the Roll angle range. At the left head Scenario it will show "left head" and at the right head Scenario it will show "Right" at the Phone Screen:





ii) Then if the phone is put to the horizontal plane below the Head SAR phantom, the DUT status is still stable as below. So the DUT can be set to the correct status (Left Head or right head Scenario) during the SAR test:

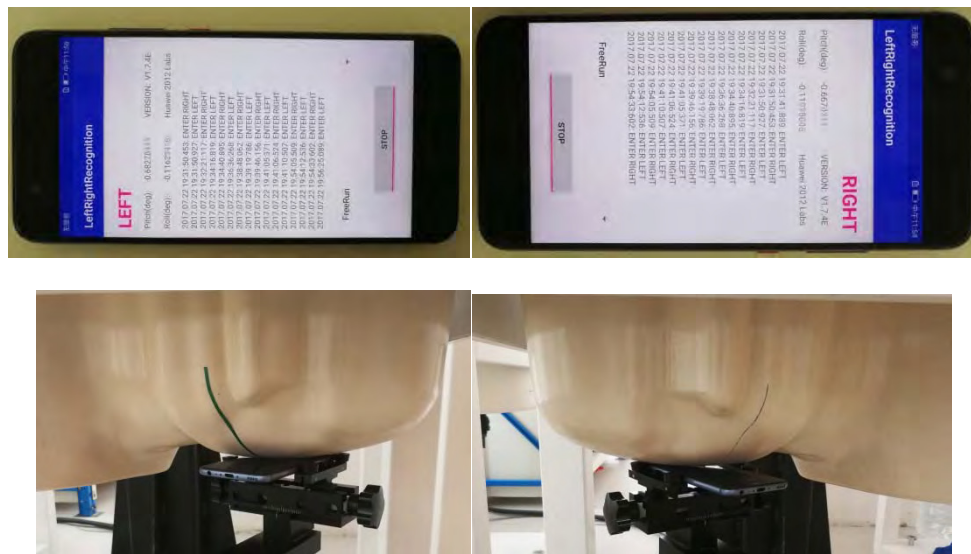


Fig 5.3.11-5 Test setup for left and right Head test Scenario

#### d) For Body / Product Specific 10-g SAR test:

Standalone SAR should be evaluated at power level C1/C2/C3 with Audio Receiver off for 2G&3G&4G second ant, 2G&3G&4G main ant, Wi-Fi Ant respectively.

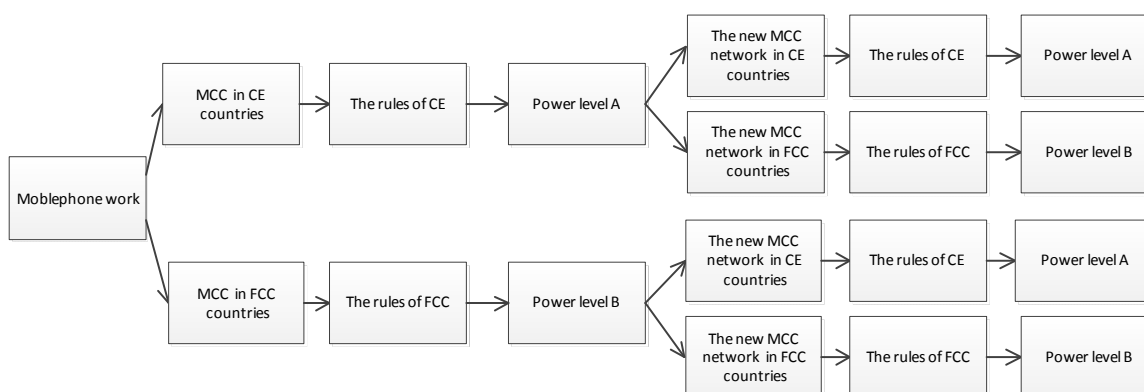
### 5.3.12 Country Code Detection Mechanism

The device uses the mobile country code (MCC) to indicate whether the users in CE countries or FCC countries. The selection between CE countries and FCC countries power levels is based on the country code detection mechanism. It can determine the countries where users are and set the relevant power level for 4G and WiFi antennas accordingly.

**Table 1: Summary of country code detection mechanism**

| Antenna                   | MCC OF CE COUNTRY<br>(CE standard) | MCC OF FCC COUNTRY<br>(FCC standard) |
|---------------------------|------------------------------------|--------------------------------------|
| 4G second ant<br>(LTE B7) | Power Level A1                     | Power Level B1                       |
| 4G main ant<br>(LTE B7)   | Power Level A2                     | Power Level B2                       |

The countries on detection is accomplished by operator network as figure below shows:



The software of the device has information of CE and FCC countries so that to detect where the users are. If the users are in CE countries, the power level A is applied. If the users are in FCC countries, the power level B is applied.

Note:

- The power level A and B can be set to the same or different.
- The device distinguishes different countries by MCC information. If we are close to a country border and the phone switches to a neighboring network the power reduction will follow the newest registered MCC information.
- The default status when the device doesn't know the MCC information will be set to the Lower Power Level between A and B.

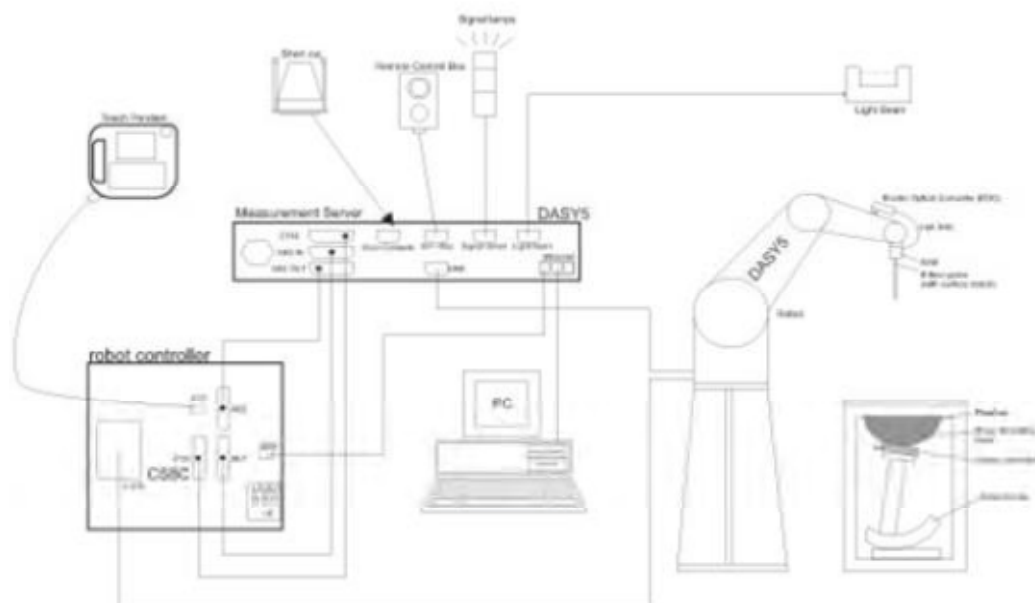
**For SAR test:**

- Standalone FCC SAR of 4G second antis evaluated at power level B1;
- Standalone FCC SAR of 4G main antis evaluated at power level B2.

## 6 SAR Measurements System Configuration

## 6.1 SAR Measurement Set-up

The DASY system for performing compliance tests consists of the following items:



- A standard high precision 6-axis robot with controller, teach pendant and software. An arm extension for accommodating the data acquisition electronics (DAE).
- An isotropic Field probe optimized and calibrated for the targeted measurement.
- A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- The Electro-optical converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. To use optical surface detection, a special version of the EOC is required. The EOC signal is transmitted to the measurement server.
- The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movement interrupts.
- The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- A computer running WinXP or Win7 and the DASY software.
- Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- The phantom, the device holder and other accessories according to the targeted measurement.

## 6.2 DASY5 E-field Probe System

The SAR measurements were conducted with the dosimetric probe EX3DV4 (manufactured by SPEAG), designed in the classical triangular configuration and optimized for dosimetric evaluation.

### EX3DV4 Probe Specification

|               |                                                                                                                                                                                                            |
|---------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Construction  | Symmetrical design with triangular core<br>Built-in shielding against static charges<br>PEEK enclosure material (resistant to organic solvents, e.g., DGBE)                                                |
| Calibration   | ISO/IEC 17025 calibration<br>service available                                                                                                                                                             |
| Frequency     | 10 MHz to > 6 GHz<br>Linearity: $\pm 0.2$ dB<br>(30 MHz to 6 GHz)                                                                                                                                          |
| Directivity   | $\pm 0.3$ dB in HSL (rotation around probe axis) $\pm 0.5$ dB in tissue material (rotation normal to probe axis)                                                                                           |
| Dynamic Range | 10 $\mu$ W/g to > 100 mW/g Linearity: $\pm 0.2$ dB (noise: typically < 1 $\mu$ W/g)                                                                                                                        |
| Dimensions    | Overall length: 330 mm (Tip: 20 mm) Tip diameter: 2.5 mm (Body: 12 mm)<br>Typical distance from probe tip to dipole centers: 1 mm                                                                          |
| Application   | High precision dosimetric measurements in any exposure Scenario (e.g., very strong gradient fields). Only probe which enables compliance testing for frequencies up to 6 GHz with precision of better 30%. |



### E-field Probe Calibration

Each probe is calibrated according to a dosimetric assessment procedure with accuracy better than  $\pm 10\%$ . The spherical isotropy was evaluated and found to be better than  $\pm 0.25$ dB. The sensitivity parameters (NormX, NormY, NormZ), the diode compression parameter (DCP) and the conversion factor (ConvF) of the probe are tested.

The free space E-field from amplified probe outputs is determined in a test chamber. This is performed in a TEM cell for frequencies below 1 GHz, and in a wave guide above 1 GHz for free space. For the free space calibration, the probe is placed in the volumetric center of the cavity and at the proper orientation with the field. The probe is then rotated 360 degrees.

E-field temperature correlation calibration is performed in a flat phantom filled with the appropriate simulated brain tissue. The measured free space E-field in the medium correlates to temperature rise in a dielectric medium. For temperature correlation calibration a RF transparent thermistor-based



temperature probe is used in conjunction with the E-field probe.

$$\text{SAR} = C \Delta T / \Delta t$$

Where:  $\Delta t$  = Exposure time (30 seconds),

$C$  = Heat capacity of tissue (brain or muscle),

$\Delta T$  = Temperature increase due to RF exposure.

Or

$$\text{SAR} = I E^2 \sigma / \rho$$

Where:  $\sigma$  = Simulated tissue conductivity,

$\rho$  = Tissue density ( $\text{kg/m}^3$ ).

## 6.3 SAR Measurement Procedure

### Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

### Area Scan

The area scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan), if only one zoom scan follows the area scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of zoom scans has to be increased accordingly.

Area scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

|                                                                                                        | $\leq 3$ GHz                                                                                                                                                                                                                                                           | $> 3$ GHz                                              |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface | $5 \pm 1$ mm                                                                                                                                                                                                                                                           | $\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm     |
| Maximum probe angle from probe axis to phantom surface normal at the measurement location              | $30^\circ \pm 1^\circ$                                                                                                                                                                                                                                                 | $20^\circ \pm 1^\circ$                                 |
| Maximum area scan spatial resolution:<br>$\Delta x_{\text{Area}}, \Delta y_{\text{Area}}$              | $\leq 2$ GHz: $\leq 15$ mm<br>$2 - 3$ GHz: $\leq 12$ mm                                                                                                                                                                                                                | $3 - 4$ GHz: $\leq 12$ mm<br>$4 - 6$ GHz: $\leq 10$ mm |
|                                                                                                        | When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device. |                                                        |

## Zoom Scan

Zoom scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 gram and 10 gram of simulated tissue. The zoom scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the zoom scan evaluates the averaged SAR for 1 gram and 10 gram and displays these values next to the job's label.

Zoom scan parameters extracted from FCC KDB 865664 D01 SAR measurement 100 MHz to 6 GHz.

|                                                                                                                                                                                                                                                                            |                                           |                                                                                             | ≤3GHz                               | > 3 GHz                                               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------|-------------------------------------|-------------------------------------------------------|
| Maximum zoom scan spatial resolution: $\Delta x_{\text{zoom}}$<br>$\Delta y_{\text{zoom}}$                                                                                                                                                                                 |                                           |                                                                                             | ≤2GHz: ≤8mm<br>2 – 3GHz: ≤5mm*      | 3 – 4GHz: ≤5mm*<br>4 – 6GHz: ≤4mm*                    |
| Maximum zoom scan spatial resolution, normal to phantom surface                                                                                                                                                                                                            | Uniform grid: $\Delta z_{\text{zoom}}(n)$ |                                                                                             | ≤5mm                                | 3 – 4GHz: ≤4mm<br>4 – 5GHz: ≤3mm<br>5 – 6GHz: ≤2mm    |
|                                                                                                                                                                                                                                                                            | Graded grid                               | $\Delta z_{\text{zoom}}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface | ≤4mm                                | 3 – 4GHz: ≤3mm<br>4 – 5GHz: ≤2.5mm<br>5 – 6GHz: ≤2mm  |
|                                                                                                                                                                                                                                                                            |                                           | $\Delta z_{\text{zoom}}(n>1)$ : between subsequent points                                   | ≤1.5• $\Delta z_{\text{zoom}}(n-1)$ |                                                       |
| Minimum zoom scan volume                                                                                                                                                                                                                                                   | X, y, z                                   |                                                                                             | ≥30mm                               | 3 – 4GHz: ≥28mm<br>4 – 5GHz: ≥25mm<br>5 – 6GHz: ≥22mm |
| Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.                                                                                                                          |                                           |                                                                                             |                                     |                                                       |
| * When zoom scan is required and the <u>reported</u> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is ≤ 1.4W/kg, ≤8mm, ≤7mm and ≤5mm zoom scan resolution may be applied, respectively, for 2GHz to 3GHz, 3GHz to 4GHz and 4GHz to 6GHz. |                                           |                                                                                             |                                     |                                                       |

## Volume Scan Procedures

The volume scan is used to assess overlapping SAR distributions for antennas transmitting in different frequency bands. It is equivalent to an oversized zoom scan used in standalone measurements. The measurement volume will be used to enclose all the simultaneous transmitting antennas. For antennas transmitting simultaneously in different frequency bands, the volume scan is measured separately in each frequency band. In order to sum correctly to compute the 1g aggregate SAR, the EUT remain in the same test position for all measurements and all volume scan use the same spatial resolution and grid spacing. When all volume scan were completed, the software, SEMCAD postprocessor can combine and subsequently superpose these measurement data to calculating the multiband SAR.

## Power Drift Monitoring

All SAR testing is under the EUT install full charged battery and transmit maximum output power. In DASY measurement software, the power reference measurement and power drift measurement procedures are used for monitoring the power drift of EUT during SAR test. Both these procedures measure the field at a specified reference position before and after the SAR testing. The software will calculate the field difference in dB. If the power drifts more than 5%, the SAR will be retested.



## 7 Main Test Equipment

| Name of Equipment                   | Manufacturer    | Type/Model | Serial Number | Last Cal.  | Cal. Due Date |
|-------------------------------------|-----------------|------------|---------------|------------|---------------|
| Network analyzer                    | Agilent         | E5071B     | MY42404014    | 2017-05-20 | 2018-05-19    |
| Dielectric Probe Kit                | HP              | 85070E     | US44020115    | 2017-05-20 | 2018-05-19    |
| Power meter                         | Agilent         | E4417A     | GB41291714    | 2017-05-21 | 2018-05-20    |
| Power sensor                        | Agilent         | N8481H     | MY50350004    | 2017-05-21 | 2018-05-20    |
| Power sensor                        | Agilent         | E9327A     | US40441622    | 2017-05-20 | 2018-05-19    |
| Dual directional coupler            | Agilent         | 778D-012   | 50519         | 2017-05-21 | 2018-05-20    |
| Dual directional coupler            | Agilent         | 777D       | 50146         | 2017-05-20 | 2018-05-19    |
| Amplifier                           | INDEXSAR        | IXA-020    | 0401          | 2017-05-20 | 2018-05-19    |
| Wideband radio communication tester | R&S             | CMW 500    | 113645        | 2017-05-20 | 2018-05-19    |
| BT Base Station Simulator           | R&S             | CBT        | 100271        | 2017-05-14 | 2018-05-13    |
| E-field Probe                       | SPEAG           | EX3DV4     | 3677          | 2017-01-23 | 2018-01-22    |
| E-field Probe                       | SPEAG           | EX3DV4     | 7351          | 2016-12-20 | 2017-12-19    |
| DAE                                 | SPEAG           | DAE4       | 1291          | 2017-01-19 | 2018-01-18    |
| DAE                                 | SPEAG           | DAE4       | 918           | 2017-06-26 | 2018-06-25    |
| Validation Kit 750MHz               | SPEAG           | D750V3     | 1045          | 2017-08-27 | 2020-08-26    |
| Validation Kit 835MHz               | SPEAG           | D835V2     | 4d020         | 2017-08-28 | 2020-08-27    |
| Validation Kit 1750MHz              | SPEAG           | D1750V2    | 1033          | 2017-01-10 | 2020-01-09    |
| Validation Kit 1900MHz              | SPEAG           | D1900V2    | 5d060         | 2017-08-26 | 2020-08-25    |
| Validation Kit 2450MHz              | SPEAG           | D2450V2    | 786           | 2017-08-29 | 2020-08-28    |
| Validation Kit 2600MHz              | SPEAG           | D2600V2    | 1025          | 2014-12-08 | 2017-12-07    |
| Validation Kit 5GHz                 | SPEAG           | D5GHzV2    | 1151          | 2017-01-05 | 2020-01-04    |
| Temperature Probe                   | Tianjin jinming | JM222      | AA1009129     | 2017-05-20 | 2018-05-19    |
| Hygrothermograph                    | Anymetr         | NT-311     | 20150731      | 2017-05-17 | 2018-05-16    |



## 8 Tissue Dielectric Parameter Measurements & System Verification

### 8.1 Tissue Verification

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within  $\pm 2^\circ\text{C}$  of the temperature when the tissue parameters are characterized. The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance.

#### Target values

| Frequency (MHz) |      | Water (%) | Salt (%)                       | Sugar (%) | Glycol (%) | Preventol (%) | Cellulose (%) | $\epsilon_r$ | $\sigma(\text{s/m})$ |
|-----------------|------|-----------|--------------------------------|-----------|------------|---------------|---------------|--------------|----------------------|
| Head            | 750  | 41.448    | 1.452                          | 56        | 0          | 0.1           | 1.0           | 41.9         | 0.89                 |
|                 | 835  | 41.45     | 1.45                           | 56        | 0          | 0.1           | 1.0           | 41.5         | 0.90                 |
|                 | 1750 | 55.24     | 0.31                           | 0         | 44.45      | 0             | 0             | 40.1         | 1.37                 |
|                 | 1900 | 55.242    | 0.306                          | 0         | 44.452     | 0             | 0             | 40.0         | 1.40                 |
|                 | 2450 | 62.7      | 0.5                            | 0         | 36.8       | 0             | 0             | 39.2         | 1.80                 |
|                 | 2600 | 55.242    | 0.306                          | 0         | 44.452     | 0             | 0             | 39.0         | 1.96                 |
| Body            | 750  | 52.49     | 1.41                           | 45        | 0          | 0.1           | 1.0           | 55.5         | 0.96                 |
|                 | 835  | 52.5      | 1.4                            | 45        | 0          | 0.1           | 1.0           | 55.2         | 0.97                 |
|                 | 1750 | 69.91     | 0.12                           | 0         | 29.97      | 0             | 0             | 53.4         | 1.49                 |
|                 | 1900 | 69.91     | 0.13                           | 0         | 29.96      | 0             | 0             | 53.3         | 1.52                 |
|                 | 2450 | 73.2      | 0.1                            | 0         | 26.7       | 0             | 0             | 52.7         | 1.95                 |
|                 | 2600 | 72.6      | 0.1                            | 0         | 27.3       | 0             | 0             | 52.5         | 2.16                 |
| Frequency (MHz) |      | Water (%) | Diethylenglycol monohexylether |           |            | Triton X-100  |               | $\epsilon_r$ | $\sigma(\text{s/m})$ |
| Head            | 5250 | 65.53     | 17.24                          |           |            | 17.23         |               | 35.9         | 4.71                 |
|                 | 5600 | 65.53     | 17.24                          |           |            | 17.23         |               | 35.5         | 5.07                 |
|                 | 5750 | 65.53     | 17.24                          |           |            | 17.23         |               | 35.4         | 5.22                 |
| Body            | 5250 | 72.52     | 13.74                          |           |            | 13.74         |               | 48.9         | 5.36                 |
|                 | 5600 | 72.52     | 13.74                          |           |            | 13.74         |               | 48.5         | 5.77                 |
|                 | 5750 | 72.52     | 13.74                          |           |            | 13.74         |               | 48.3         | 5.94                 |

# Measurements results

| Frequency (MHz) |      | Test Date | Temp °C | Measured Dielectric Parameters |                | Target Dielectric Parameters |                | Limit (Within ±5%)   |                  |
|-----------------|------|-----------|---------|--------------------------------|----------------|------------------------------|----------------|----------------------|------------------|
|                 |      |           |         | $\epsilon_r$                   | $\sigma$ (s/m) | $\epsilon_r$                 | $\sigma$ (s/m) | Dev $\epsilon_r$ (%) | Dev $\sigma$ (%) |
| 750             | Head | 9/15/2017 | 21.5    | 42.3                           | 0.88           | 41.9                         | 0.89           | 0.95                 | -1.12            |
|                 |      | 9/20/2017 | 21.5    | 42.0                           | 0.87           | 41.9                         | 0.89           | 0.24                 | -2.25            |
|                 | Body | 9/14/2017 | 21.5    | 56.9                           | 0.95           | 55.5                         | 0.96           | 2.52                 | -1.04            |
|                 |      | 9/19/2017 | 21.5    | 54.5                           | 0.96           | 55.5                         | 0.96           | -1.80                | 0.00             |
| 835             | Head | 9/12/2017 | 21.5    | 41.4                           | 0.88           | 41.5                         | 0.90           | -0.24                | -2.22            |
|                 |      | 9/16/2017 | 21.5    | 41.3                           | 0.87           | 41.5                         | 0.90           | -0.48                | -3.33            |
|                 | Body | 9/13/2017 | 21.5    | 54.2                           | 0.96           | 55.2                         | 0.97           | -1.81                | -1.03            |
|                 |      | 9/18/2017 | 21.5    | 54.6                           | 0.95           | 55.2                         | 0.97           | -1.09                | -2.06            |
| 1750            | Head | 9/11/2017 | 21.5    | 40.2                           | 1.34           | 40.1                         | 1.37           | 0.25                 | -2.19            |
|                 |      | 9/21/2017 | 21.5    | 40.1                           | 1.34           | 40.1                         | 1.37           | 0.00                 | -2.19            |
|                 | Body | 9/10/2017 | 21.5    | 51.9                           | 1.46           | 53.4                         | 1.49           | -2.81                | -2.01            |
|                 |      | 9/15/2017 | 21.5    | 52.5                           | 1.51           | 53.4                         | 1.49           | -1.69                | 1.34             |
|                 |      | 9/17/2017 | 21.5    | 53.1                           | 1.50           | 53.4                         | 1.49           | -0.56                | 0.67             |
| 1900            | Head | 9/20/2017 | 21.5    | 40.1                           | 1.41           | 40.0                         | 1.40           | 0.25                 | 0.71             |
|                 |      | 9/26/2017 | 21.5    | 40.2                           | 1.43           | 40.0                         | 1.40           | 0.50                 | 2.14             |
|                 |      | 9/27/2017 | 21.5    | 40.1                           | 1.41           | 40.0                         | 1.40           | 0.25                 | 0.71             |
|                 | Body | 9/21/2017 | 21.5    | 52.6                           | 1.51           | 53.3                         | 1.52           | -1.31                | -0.66            |
|                 |      | 9/22/2017 | 21.5    | 53.3                           | 1.51           | 53.3                         | 1.52           | 0.00                 | -0.66            |
|                 |      | 9/24/2017 | 21.5    | 52.8                           | 1.51           | 53.3                         | 1.52           | -0.94                | -0.66            |
| 2450            | Head | 9/25/2017 | 21.5    | 38.6                           | 1.81           | 39.2                         | 1.80           | -1.53                | 0.56             |
|                 | Body | 9/23/2017 | 21.5    | 52.5                           | 1.98           | 52.7                         | 1.95           | -0.38                | 1.54             |
| 2600            | Head | 9/16/2017 | 21.5    | 38.2                           | 2.01           | 39.0                         | 1.96           | -2.05                | 2.55             |
|                 |      | 9/17/2017 | 21.5    | 38.4                           | 1.94           | 39.0                         | 1.96           | -1.54                | -1.02            |
|                 |      | 9/18/2017 | 21.5    | 38.2                           | 2.01           | 39.0                         | 1.96           | -2.05                | 2.55             |
|                 | Body | 9/15/2017 | 21.5    | 51.5                           | 2.23           | 52.5                         | 2.16           | -1.90                | 3.24             |
|                 |      | 9/18/2017 | 21.5    | 51.7                           | 2.21           | 52.5                         | 2.16           | -1.52                | 2.31             |



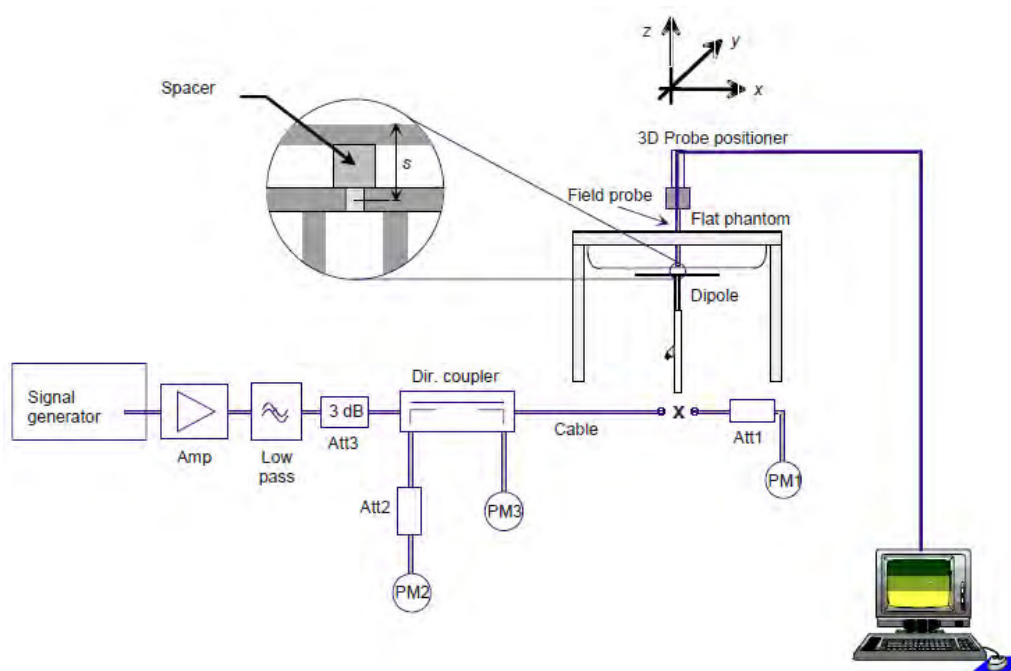
|      |      |           |      |      |      |      |      |       |       |
|------|------|-----------|------|------|------|------|------|-------|-------|
|      |      | 9/19/2017 | 21.5 | 51.8 | 2.20 | 52.5 | 2.16 | -1.33 | 1.85  |
| 5250 | Head | 9/24/2017 | 21.5 | 35.5 | 4.80 | 35.9 | 4.71 | -1.11 | 1.91  |
|      | Body | 9/22/2017 | 21.5 | 48.1 | 5.32 | 48.9 | 5.36 | -1.64 | -0.75 |
| 5600 | Head | 9/24/2017 | 21.5 | 34.2 | 5.21 | 35.5 | 5.07 | -3.66 | 2.76  |
|      | Body | 9/23/2017 | 21.5 | 47.9 | 5.78 | 48.5 | 5.77 | -1.24 | 0.17  |
| 5750 | Head | 9/25/2017 | 21.5 | 34.9 | 5.21 | 35.4 | 5.22 | -1.41 | -0.19 |
|      | Body | 9/26/2017 | 21.5 | 47.6 | 6.14 | 48.3 | 5.94 | -1.45 | 3.37  |

Note: The depth of tissue-equivalent liquid in a phantom must be  $\geq 15.0$  cm for SAR measurements  $\leq 3$  GHz and  $\geq 10.0$  cm for measurements  $> 3$  GHz.

## 8.2 System Performance Check

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue simulates were measured using the dielectric probe kit and the network analyzer. A system check measurement for every day was made following the determination of the dielectric parameters of the Tissue simulates, using the dipole validation kit. The dipole antenna was placed under the flat section of the twin SAM phantom.

System check is performed regularly on all frequency bands where tests are performed with the DASY system.



Picture 1 System Performance Check setup



Picture 2 Setup Photo

**Justification for Extended SAR Dipole Calibrations**

Usage of SAR dipoles calibrated less than 3 years ago but more than 1 year ago were confirmed in maintaining return loss ( $< -20$  dB, within 20% of prior calibration) and impedance (within 5 ohm from prior calibration) requirements per extended calibrations in KDB 865664 D01:

| Dipole                        |                | Date of Measurement | Return Loss(dB) | $\Delta$ % | Impedance ( $\Omega$ ) | $\Delta\Omega$ |
|-------------------------------|----------------|---------------------|-----------------|------------|------------------------|----------------|
| Dipole<br>D2600V2<br>SN: 1025 | Head<br>Liquid | 12/8/2014           | -24.2           | /          | 49.7                   | /              |
|                               |                | 12/7/2015           | -23.9           | 1.2%       | 50.4                   | 0.7 $\Omega$   |
|                               |                | 12/6/2016           | -23.3           | 2.6%       | 50.7                   | -0.3 $\Omega$  |
|                               | Body<br>Liquid | 12/8/2014           | -23.6           | /          | 46.6                   | /              |
|                               |                | 12/7/2015           | -24.0           | 1.7%       | 47.2                   | 0.6 $\Omega$   |
|                               |                | 12/6/2016           | -24.4           | -1.6%      | 47.1                   | 0.1 $\Omega$   |

**System Check results**

| Frequency (MHz) |      | Test Date | Temp $^{\circ}\text{C}$ | 250mW/<br>100mW<br>Measured<br>SAR <sub>1g/10g</sub><br>(W/kg) | 1W<br>Normalized<br>SAR <sub>1g/10g</sub><br>(W/kg) | 1W<br>Target<br>SAR <sub>1g/10g</sub><br>(W/kg) | $\Delta$ %<br>(Limit $\pm 10\%$ ) | Plot No. |
|-----------------|------|-----------|-------------------------|----------------------------------------------------------------|-----------------------------------------------------|-------------------------------------------------|-----------------------------------|----------|
| 750             | Head | 9/15/2017 | 21.5                    | 2.13 ( <sub>1g</sub> )                                         | 8.52                                                | 8.34                                            | 2.16                              | 1        |
|                 |      | 9/20/2017 | 21.5                    | 2.10 ( <sub>1g</sub> )                                         | 8.40                                                | 8.34                                            | 0.72                              | 2        |
|                 | Body | 9/14/2017 | 21.5                    | 2.22 ( <sub>1g</sub> )                                         | 8.88                                                | 8.78                                            | 1.14                              | 3        |
|                 |      | 9/19/2017 | 21.5                    | 2.17 ( <sub>1g</sub> )                                         | 8.68                                                | 8.78                                            | -1.14                             | 4        |
| 835             | Head | 9/12/2017 | 21.5                    | 2.44 ( <sub>1g</sub> )                                         | 9.76                                                | 9.45                                            | 3.28                              | 5        |
|                 |      | 9/16/2017 | 21.5                    | 2.46 ( <sub>1g</sub> )                                         | 9.84                                                | 9.45                                            | 4.13                              | 6        |
|                 | Body | 9/13/2017 | 21.5                    | 2.41 ( <sub>1g</sub> )                                         | 9.64                                                | 9.75                                            | -1.13                             | 7        |
|                 |      | 9/18/2017 | 21.5                    | 2.42 ( <sub>1g</sub> )                                         | 9.68                                                | 9.75                                            | -0.72                             | 8        |
| 1750            | Head | 9/11/2017 | 21.5                    | 8.95 ( <sub>1g</sub> )                                         | 35.80                                               | 37.20                                           | -3.76                             | 9        |
|                 |      | 9/21/2017 | 21.5                    | 9.11 ( <sub>1g</sub> )                                         | 36.44                                               | 37.20                                           | -2.04                             | 10       |
|                 | Body | 9/10/2017 | 21.5                    | 9.24 ( <sub>1g</sub> )                                         | 36.96                                               | 37.60                                           | -1.70                             | 11       |
|                 |      |           | 21.5                    | 4.90 ( <sub>10g</sub> )                                        | 19.60                                               | 20.1                                            | -2.49                             |          |
|                 |      | 9/15/2017 | 21.5                    | 9.40 ( <sub>1g</sub> )                                         | 37.60                                               | 37.60                                           | 0.00                              | 12       |
|                 |      |           | 21.5                    | 5.22 ( <sub>10g</sub> )                                        | 20.88                                               | 20.1                                            | 3.88                              |          |
|                 |      | 9/17/2017 | 21.5                    | 9.43 ( <sub>1g</sub> )                                         | 37.72                                               | 37.60                                           | 0.32                              | 13       |
| 1900            | Head | 9/20/2017 | 21.5                    | 9.88 ( <sub>1g</sub> )                                         | 39.52                                               | 40.10                                           | -1.45                             | 14       |
|                 |      | 9/26/2017 | 21.5                    | 9.85 ( <sub>1g</sub> )                                         | 39.40                                               | 40.10                                           | -1.75                             | 15       |
|                 |      | 9/27/2017 | 21.5                    | 10.55 ( <sub>1g</sub> )                                        | 42.20                                               | 40.10                                           | 5.24                              | 16       |



|                                                                                               |      |           |      |            |       |       |       |    |
|-----------------------------------------------------------------------------------------------|------|-----------|------|------------|-------|-------|-------|----|
|                                                                                               | Body | 9/21/2017 | 21.5 | 9.93 (1g)  | 39.72 | 39.50 | 0.56  | 17 |
|                                                                                               |      |           | 21.5 | 5.25 (10g) | 21.00 | 20.8  | 0.96  |    |
|                                                                                               |      | 9/22/2017 | 21.5 | 9.82 (1g)  | 39.28 | 39.50 | -0.56 | 18 |
|                                                                                               |      | 9/24/2017 | 21.5 | 9.91 (1g)  | 39.64 | 39.50 | 0.35  | 19 |
|                                                                                               |      |           | 21.5 | 5.23 (10g) | 20.92 | 20.8  | 0.58  |    |
| 2450                                                                                          | Head | 9/25/2017 | 21.5 | 13.70 (1g) | 54.80 | 52.60 | 4.18  | 20 |
|                                                                                               | Body | 9/23/2017 | 21.5 | 12.50 (1g) | 50.00 | 50.80 | -1.57 | 21 |
| 2600                                                                                          | Head | 9/16/2017 | 21.5 | 13.90 (1g) | 55.60 | 56.90 | -2.28 | 22 |
|                                                                                               |      | 9/17/2017 | 21.5 | 13.88 (1g) | 55.52 | 56.90 | -2.43 | 23 |
|                                                                                               |      | 9/18/2017 | 21.5 | 13.90 (1g) | 55.60 | 56.90 | -2.28 | 24 |
|                                                                                               | Body | 9/15/2017 | 21.5 | 13.50 (1g) | 54.00 | 56.40 | -4.26 | 25 |
|                                                                                               |      | 9/18/2017 | 21.5 | 13.55 (1g) | 54.20 | 56.40 | -3.90 | 26 |
|                                                                                               |      | 9/19/2017 | 21.5 | 13.89 (1g) | 55.56 | 56.40 | -1.49 | 27 |
| 5250                                                                                          | Head | 9/24/2017 | 21.5 | 7.87 (1g)  | 78.7  | 78.40 | 0.38  | 28 |
|                                                                                               | Body | 9/22/2017 | 21.5 | 7.46 (1g)  | 74.6  | 75.60 | -1.32 | 29 |
|                                                                                               |      |           | 21.5 | 2.26 (10g) | 22.6  | 21.4  | 5.61  |    |
| 5600                                                                                          | Head | 9/24/2017 | 21.5 | 7.67 (1g)  | 76.7  | 81.50 | -5.89 | 30 |
|                                                                                               | Body | 9/23/2017 | 21.5 | 8.10 (1g)  | 81    | 80.20 | 1.00  | 31 |
|                                                                                               |      |           | 21.5 | 2.11 (10g) | 21.1  | 22.3  | -5.38 |    |
| 5750                                                                                          | Head | 9/25/2017 | 21.5 | 7.66 (1g)  | 76.6  | 80.50 | -4.84 | 32 |
|                                                                                               | Body | 9/26/2017 | 21.5 | 7.15 (1g)  | 71.5  | 74.60 | -4.16 | 33 |
| Note: Target Values used derive from the calibration certificate Data Storage and Evaluation. |      |           |      |            |       |       |       |    |

## 9 Normal and Maximum Output Power

KDB 447498 D01 at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

### 9.1 GSM Mode

(Antenna 1)

| GSM 850<br>(REC On/Off)                  |          | Burst Average<br>Power(dBm) |       |        | Division<br>Factors<br>(dB) | Frame-Average<br>Power(dBm) |              |              | Burst<br>Tune-up<br>Limit<br>(dBm) |
|------------------------------------------|----------|-----------------------------|-------|--------|-----------------------------|-----------------------------|--------------|--------------|------------------------------------|
| Tx Channel                               |          | 128                         | 190   | 251    |                             | 128                         | 190          | 251          |                                    |
| Frequency(MHz)                           |          | 824.2                       | 836.6 | 848.8  |                             | 824.2                       | 836.6        | 848.8        |                                    |
| GSM(GMSK)                                |          | 32.47                       | 32.57 | 32.61  | 9.03                        | 23.44                       | 23.54        | 23.58        | 33.60                              |
| GPRS<br>(GMSK)                           | 1Txslot  | 32.38                       | 32.52 | 32.60  | 9.03                        | 23.35                       | 23.49        | 23.57        | 33.60                              |
|                                          | 2Txslots | 30.10                       | 30.22 | 30.36  | 6.02                        | <b>24.08</b>                | <b>24.20</b> | <b>24.34</b> | 31.50                              |
|                                          | 3Txslots | 27.83                       | 28.07 | 28.11  | 4.26                        | 23.57                       | 23.81        | 23.85        | 29.50                              |
|                                          | 4Txslots | 25.74                       | 25.99 | 26.05  | 3.01                        | 22.73                       | 22.98        | 23.04        | 27.50                              |
| EGPRS<br>(GMSK)                          | 1Txslot  | 32.37                       | 32.51 | 32.59  | 9.03                        | 23.34                       | 23.48        | 23.56        | 33.50                              |
|                                          | 2Txslots | 30.08                       | 30.20 | 30.34  | 6.02                        | 24.06                       | 24.18        | 24.32        | 31.50                              |
|                                          | 3Txslots | 27.80                       | 28.04 | 28.08  | 4.26                        | 23.54                       | 23.78        | 23.82        | 29.50                              |
|                                          | 4Txslots | 25.72                       | 25.97 | 26.03  | 3.01                        | 22.71                       | 22.96        | 23.02        | 27.50                              |
| EGPRS<br>(8PSK)                          | 1Txslot  | 26.53                       | 26.77 | 26.60  | 9.03                        | 17.50                       | 17.74        | 17.57        | 27.50                              |
|                                          | 2Txslots | 24.16                       | 24.29 | 24.27  | 6.02                        | 18.14                       | 18.27        | 18.25        | 25.50                              |
|                                          | 3Txslots | 22.34                       | 22.17 | 22.34  | 4.26                        | 18.08                       | 17.91        | 18.08        | 23.50                              |
|                                          | 4Txslots | 20.15                       | 20.26 | 20.62  | 3.01                        | 17.14                       | 17.25        | 17.61        | 21.50                              |
| GSM 1900<br>(REC On/Off,<br>Hotspot off) |          | Power(dBm)                  |       |        | Division<br>Factors<br>(dB) | Power(dBm)                  |              |              | Burst<br>Tune-up<br>Limit<br>(dBm) |
| Tx Channel                               |          | 512                         | 661   | 810    |                             | 512                         | 661          | 810          |                                    |
| Frequency(MHz)                           |          | 1850.2                      | 1880  | 1909.8 |                             | 1850.2                      | 1880         | 1909.8       |                                    |
| GSM(GMSK)                                |          | 29.95                       | 30.12 | 30.04  | 9.03                        | 20.92                       | 21.09        | 21.01        | 31.00                              |
| GPRS<br>(GMSK)                           | 1Txslot  | 30.20                       | 30.19 | 30.26  | 9.03                        | 21.17                       | 21.16        | 21.23        | 31.00                              |
|                                          | 2Txslots | 27.92                       | 27.97 | 28.07  | 6.02                        | <b>21.90</b>                | <b>21.95</b> | <b>22.05</b> | 29.00                              |
|                                          | 3Txslots | 25.74                       | 25.75 | 25.90  | 4.26                        | 21.48                       | 21.49        | 21.64        | 27.00                              |
|                                          | 4Txslots | 23.63                       | 23.60 | 23.75  | 3.01                        | 20.62                       | 20.59        | 20.74        | 25.00                              |
| EGPRS<br>(GMSK)                          | 1Txslot  | 30.19                       | 30.18 | 30.25  | 9.03                        | 21.16                       | 21.15        | 21.22        | 31.00                              |
|                                          | 2Txslots | 27.90                       | 27.95 | 28.05  | 6.02                        | 21.88                       | 21.93        | 22.03        | 29.00                              |
|                                          | 3Txslots | 25.71                       | 25.72 | 25.87  | 4.26                        | 21.45                       | 21.46        | 21.61        | 27.00                              |
|                                          | 4Txslots | 23.61                       | 23.58 | 23.73  | 3.01                        | 20.60                       | 20.57        | 20.72        | 25.00                              |
| EGPRS<br>(8PSK)                          | 1Txslot  | 26.07                       | 25.93 | 25.95  | 9.03                        | 17.04                       | 16.90        | 16.92        | 26.50                              |
|                                          | 2Txslots | 23.37                       | 23.62 | 23.49  | 6.02                        | 17.35                       | 17.60        | 17.47        | 24.00                              |
|                                          | 3Txslots | 21.37                       | 21.27 | 21.25  | 4.26                        | 17.11                       | 17.01        | 16.99        | 22.00                              |





|                                                                                                                                                                       |          |            |       |        |                             |              |              |              |                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|-------|--------|-----------------------------|--------------|--------------|--------------|------------------------------------|
|                                                                                                                                                                       | 4Txslots | 19.43      | 19.53 | 19.46  | 3.01                        | 16.42        | 16.52        | 16.45        | 20.00                              |
| GSM 1900<br>(REC On/Off,<br>Hotspot on)                                                                                                                               |          | Power(dBm) |       |        | Division<br>Factors<br>(dB) | Power(dBm)   |              |              | Burst<br>Tune-up<br>Limit<br>(dBm) |
| Tx Channel                                                                                                                                                            |          | 512        | 661   | 810    |                             | 512          | 661          | 810          |                                    |
| Frequency(MHz)                                                                                                                                                        |          | 1850.2     | 1880  | 1909.8 |                             | 1850.2       | 1880         | 1909.8       |                                    |
| GSM(GMSK)                                                                                                                                                             |          | 25.97      | 26.03 | 26.05  | 9.03                        | 16.94        | 17.00        | 17.02        | 27.00                              |
| GPRS<br>(GMSK)                                                                                                                                                        | 1Txslot  | 25.97      | 26.03 | 25.98  | 9.03                        | 16.94        | 17.00        | 16.95        | 27.00                              |
|                                                                                                                                                                       | 2Txslots | 23.96      | 23.99 | 23.94  | 6.02                        | <b>17.94</b> | <b>17.97</b> | <b>17.92</b> | 25.00                              |
|                                                                                                                                                                       | 3Txslots | 21.89      | 21.92 | 21.90  | 4.26                        | 17.63        | 17.66        | 17.64        | 23.00                              |
|                                                                                                                                                                       | 4Txslots | 19.88      | 19.97 | 19.83  | 3.01                        | 16.87        | 16.96        | 16.82        | 21.00                              |
| EGPRS<br>(GMSK)                                                                                                                                                       | 1Txslot  | 25.94      | 26.00 | 25.95  | 9.03                        | 16.91        | 16.97        | 16.92        | 27.00                              |
|                                                                                                                                                                       | 2Txslots | 23.94      | 23.97 | 23.92  | 6.02                        | 17.92        | 17.95        | 17.90        | 25.00                              |
|                                                                                                                                                                       | 3Txslots | 21.88      | 21.91 | 21.89  | 4.26                        | 17.62        | 17.65        | 17.63        | 23.00                              |
|                                                                                                                                                                       | 4Txslots | 19.87      | 19.96 | 19.82  | 3.01                        | 16.86        | 16.95        | 16.81        | 21.00                              |
| EGPRS<br>(8PSK)                                                                                                                                                       | 1Txslot  | 21.66      | 21.67 | 21.53  | 9.03                        | 12.63        | 12.64        | 12.50        | 22.50                              |
|                                                                                                                                                                       | 2Txslots | 19.47      | 19.48 | 19.57  | 6.02                        | 13.45        | 13.46        | 13.55        | 20.00                              |
|                                                                                                                                                                       | 3Txslots | 17.42      | 17.47 | 17.56  | 4.26                        | 13.16        | 13.21        | 13.30        | 18.00                              |
|                                                                                                                                                                       | 4Txslots | 14.87      | 14.82 | 14.84  | 3.01                        | 11.86        | 11.81        | 11.83        | 16.00                              |
| Notes: The worst-case configuration and mode for SAR testing is determined to be as follows:                                                                          |          |            |       |        |                             |              |              |              |                                    |
| 1. GSM 850 GMSK (GPRS) mode with 2 time slots for Max power, GSM 1900 GMSK (GPRS) mode with 2 time slots for Max power, based on the output power measurements above. |          |            |       |        |                             |              |              |              |                                    |
| 2. SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode.                                                                 |          |            |       |        |                             |              |              |              |                                    |

**(Antenna 2)**

|                               |          |                             |       |       |                             |                             |              |              |                                    |
|-------------------------------|----------|-----------------------------|-------|-------|-----------------------------|-----------------------------|--------------|--------------|------------------------------------|
| GSM 850<br>(REC On+Left Head) |          | Burst Average<br>Power(dBm) |       |       | Division<br>Factors<br>(dB) | Frame-Average<br>Power(dBm) |              |              | Burst<br>Tune-up<br>Limit<br>(dBm) |
| Tx Channel                    |          | 128                         | 190   | 251   |                             | 128                         | 190          | 251          |                                    |
| Frequency(MHz)                |          | 824.2                       | 836.6 | 848.8 |                             | 824.2                       | 836.6        | 848.8        |                                    |
| GSM(GMSK)                     |          | 28.24                       | 28.47 | 28.63 | 9.03                        | <b>19.21</b>                | <b>19.44</b> | <b>19.60</b> | 29.50                              |
| GPRS<br>(GMSK)                | 1Txslot  | 28.37                       | 28.59 | 28.75 | 9.03                        | 19.34                       | 19.56        | 19.72        | 29.50                              |
|                               | 2Txslots | 26.26                       | 26.48 | 26.56 | 6.02                        | 20.24                       | 20.46        | 20.54        | 27.50                              |
|                               | 3Txslots | 24.07                       | 24.31 | 24.48 | 4.26                        | 19.81                       | 20.05        | 20.22        | 25.00                              |
|                               | 4Txslots | 21.98                       | 22.19 | 22.37 | 3.01                        | 18.97                       | 19.18        | 19.36        | 23.00                              |
| EGPRS<br>(GMSK)               | 1Txslot  | 28.24                       | 28.46 | 28.62 | 9.03                        | 19.21                       | 19.43        | 19.59        | 30.10                              |
|                               | 2Txslots | 26.17                       | 26.39 | 26.47 | 6.02                        | 20.15                       | 20.37        | 20.45        | 27.50                              |
|                               | 3Txslots | 23.99                       | 24.23 | 24.43 | 4.26                        | 19.73                       | 19.97        | 20.17        | 25.00                              |
|                               | 4Txslots | 21.93                       | 22.14 | 22.32 | 3.01                        | 18.92                       | 19.13        | 19.31        | 23.00                              |
| EGPRS<br>(8PSK)               | 1Txslot  | 22.40                       | 22.39 | 22.46 | 9.03                        | 13.37                       | 13.36        | 13.43        | 23.50                              |
|                               | 2Txslots | 20.06                       | 20.13 | 20.16 | 6.02                        | 14.04                       | 14.11        | 14.14        | 21.00                              |



|                                         |          |            |       |       |                          |              |              |              |                              |
|-----------------------------------------|----------|------------|-------|-------|--------------------------|--------------|--------------|--------------|------------------------------|
|                                         | 3Txslots | 18.33      | 18.34 | 18.41 | 4.26                     | 14.07        | 14.08        | 14.15        | 19.50                        |
|                                         | 4Txslots | 16.26      | 16.13 | 16.38 | 3.01                     | 13.25        | 13.12        | 13.37        | 17.50                        |
| GSM 850<br>(REC On+Right Head)          |          | Power(dBm) |       |       | Division Factors<br>(dB) | Power(dBm)   |              |              | Burst Tune-up Limit<br>(dBm) |
| Tx Channel                              |          | 128        | 190   | 251   |                          | 128          | 190          | 251          |                              |
| Frequency(MHz)                          |          | 824.2      | 836.6 | 848.8 |                          | 824.2        | 836.6        | 848.8        |                              |
| GSM(GMSK)                               |          | 27.70      | 27.96 | 28.13 | 9.03                     | <b>18.67</b> | <b>18.93</b> | <b>19.10</b> | 29.00                        |
| GPRS<br>(GMSK)                          | 1Txslot  | 27.84      | 28.08 | 28.24 | 9.03                     | 18.81        | 19.05        | 19.21        | 29.00                        |
|                                         | 2Txslots | 25.68      | 26.01 | 25.91 | 6.02                     | 19.66        | 19.99        | 19.89        | 27.00                        |
|                                         | 3Txslots | 23.61      | 23.80 | 23.93 | 4.26                     | 19.35        | 19.54        | 19.67        | 24.50                        |
|                                         | 4Txslots | 21.69      | 21.78 | 21.90 | 3.01                     | 18.68        | 18.77        | 18.89        | 22.50                        |
| EGPRS<br>(GMSK)                         | 1Txslot  | 27.74      | 27.98 | 28.14 | 9.03                     | 18.71        | 18.95        | 19.11        | 29.60                        |
|                                         | 2Txslots | 25.58      | 25.71 | 25.81 | 6.02                     | 19.56        | 19.69        | 19.79        | 27.00                        |
|                                         | 3Txslots | 23.21      | 23.40 | 23.53 | 4.26                     | 18.95        | 19.14        | 19.27        | 24.50                        |
|                                         | 4Txslots | 21.74      | 21.68 | 21.80 | 3.01                     | 18.73        | 18.67        | 18.79        | 22.50                        |
| EGPRS<br>(8PSK)                         | 1Txslot  | 22.08      | 22.05 | 22.11 | 9.03                     | 13.05        | 13.02        | 13.08        | 23.00                        |
|                                         | 2Txslots | 19.85      | 19.94 | 20.09 | 6.02                     | 13.83        | 13.92        | 14.07        | 20.50                        |
|                                         | 3Txslots | 17.98      | 17.88 | 17.96 | 4.26                     | 13.72        | 13.62        | 13.70        | 19.00                        |
|                                         | 4Txslots | 15.62      | 15.77 | 15.88 | 3.01                     | 12.61        | 12.76        | 12.87        | 17.00                        |
| GSM 850<br>(REC On+Left Head+Wi-Fi/BT)  |          | Power(dBm) |       |       | Division Factors<br>(dB) | Power(dBm)   |              |              | Burst Tune-up Limit<br>(dBm) |
| Tx Channel                              |          | 128        | 190   | 251   |                          | 128          | 190          | 251          |                              |
| Frequency(MHz)                          |          | 824.2      | 836.6 | 848.8 |                          | 824.2        | 836.6        | 848.8        |                              |
| GSM(GMSK)                               |          | 25.30      | 25.54 | 25.72 | 9.03                     | <b>16.27</b> | <b>16.51</b> | <b>16.69</b> | 26.50                        |
| GPRS<br>(GMSK)                          | 1Txslot  | 25.41      | 25.53 | 25.36 | 9.03                     | 16.38        | 16.50        | 16.33        | 26.50                        |
|                                         | 2Txslots | 23.18      | 23.42 | 23.26 | 6.02                     | 17.16        | 17.40        | 17.24        | 24.50                        |
|                                         | 3Txslots | 21.25      | 21.46 | 21.25 | 4.26                     | 16.99        | 17.20        | 16.99        | 22.00                        |
|                                         | 4Txslots | 19.11      | 19.33 | 19.09 | 3.01                     | 16.10        | 16.32        | 16.08        | 20.00                        |
| EGPRS<br>(GMSK)                         | 1Txslot  | 25.30      | 25.42 | 25.25 | 9.03                     | 16.27        | 16.39        | 16.22        | 27.10                        |
|                                         | 2Txslots | 23.12      | 23.36 | 23.20 | 6.02                     | 17.10        | 17.34        | 17.18        | 24.50                        |
|                                         | 3Txslots | 21.16      | 21.37 | 21.16 | 4.26                     | 16.90        | 17.11        | 16.90        | 22.00                        |
|                                         | 4Txslots | 19.03      | 19.25 | 19.01 | 3.01                     | 16.02        | 16.24        | 16.00        | 20.00                        |
| EGPRS<br>(8PSK)                         | 1Txslot  | 19.72      | 19.77 | 19.66 | 9.03                     | 10.69        | 10.74        | 10.63        | 20.50                        |
|                                         | 2Txslots | 17.15      | 17.14 | 17.38 | 6.02                     | 11.13        | 11.12        | 11.36        | 18.00                        |
|                                         | 3Txslots | 15.26      | 15.47 | 15.39 | 4.26                     | 11.00        | 11.21        | 11.13        | 16.50                        |
|                                         | 4Txslots | 13.23      | 13.18 | 13.24 | 3.01                     | 10.22        | 10.17        | 10.23        | 14.50                        |
| GSM 850<br>(REC On+Right Head+Wi-Fi/BT) |          | Power(dBm) |       |       | Division Factors<br>(dB) | Power(dBm)   |              |              | Burst Tune-up Limit<br>(dBm) |
| Tx Channel                              |          | 128        | 190   | 251   |                          | 128          | 190          | 251          |                              |
| Frequency(MHz)                          |          | 824.2      | 836.6 | 848.8 |                          | 824.2        | 836.6        | 848.8        |                              |



|                               |          |            |       |       |                             |              |              |              |                                    |
|-------------------------------|----------|------------|-------|-------|-----------------------------|--------------|--------------|--------------|------------------------------------|
| GSM(GMSK)                     |          | 24.81      | 25.06 | 25.23 | 9.03                        | <b>15.78</b> | <b>16.03</b> | <b>16.20</b> | 26.00                              |
| GPRS<br>(GMSK)                | 1Txslot  | 24.93      | 25.16 | 25.35 | 9.03                        | 15.90        | 16.13        | 16.32        | 26.00                              |
|                               | 2Txslots | 23.17      | 23.10 | 23.23 | 6.02                        | 17.15        | 17.08        | 17.21        | 24.00                              |
|                               | 3Txslots | 20.56      | 20.78 | 20.85 | 4.26                        | 16.30        | 16.52        | 16.59        | 21.50                              |
|                               | 4Txslots | 18.71      | 18.95 | 19.10 | 3.01                        | 15.70        | 15.94        | 16.09        | 19.50                              |
| EGPRS<br>(GMSK)               | 1Txslot  | 24.82      | 25.05 | 25.24 | 9.03                        | 15.79        | 16.02        | 16.21        | 26.60                              |
|                               | 2Txslots | 22.78      | 23.01 | 23.14 | 6.02                        | 16.76        | 16.99        | 17.12        | 24.00                              |
|                               | 3Txslots | 20.48      | 20.70 | 20.97 | 4.26                        | 16.22        | 16.44        | 16.71        | 21.50                              |
|                               | 4Txslots | 18.64      | 18.88 | 19.03 | 3.01                        | 15.63        | 15.87        | 16.02        | 19.50                              |
| EGPRS<br>(8PSK)               | 1Txslot  | 19.23      | 19.08 | 19.15 | 9.03                        | 10.20        | 10.05        | 10.12        | 20.00                              |
|                               | 2Txslots | 17.12      | 17.07 | 17.06 | 6.02                        | 11.10        | 11.05        | 11.04        | 17.50                              |
|                               | 3Txslots | 15.31      | 15.23 | 15.26 | 4.26                        | 11.05        | 10.97        | 11.00        | 16.00                              |
|                               | 4Txslots | 12.55      | 12.74 | 12.78 | 3.01                        | 9.54         | 9.73         | 9.77         | 14.00                              |
| GSM 850<br>(REC Off)          |          | Power(dBm) |       |       | Division<br>Factors<br>(dB) | Power(dBm)   |              |              | Burst<br>Tune-up<br>Limit<br>(dBm) |
| Tx Channel                    |          | 128        | 190   | 251   |                             | 128          | 190          | 251          |                                    |
| Frequency(MHz)                |          | 824.2      | 836.6 | 848.8 |                             | 824.2        | 836.6        | 848.8        |                                    |
| GSM(GMSK)                     |          | 32.06      | 32.24 | 32.32 | 9.03                        | 23.03        | 23.21        | 23.29        | 33.60                              |
| GPRS<br>(GMSK)                | 1Txslot  | 32.14      | 32.33 | 32.42 | 9.03                        | 23.11        | 23.30        | 23.39        | 33.60                              |
|                               | 2Txslots | 29.68      | 29.95 | 30.16 | 6.02                        | <b>23.66</b> | <b>23.93</b> | <b>24.14</b> | 31.00                              |
|                               | 3Txslots | 27.48      | 27.75 | 27.82 | 4.26                        | 23.22        | 23.49        | 23.56        | 28.50                              |
|                               | 4Txslots | 25.24      | 25.59 | 25.66 | 3.01                        | 22.23        | 22.58        | 22.65        | 26.50                              |
| EGPRS<br>(GMSK)               | 1Txslot  | 32.02      | 32.21 | 32.30 | 9.03                        | 22.99        | 23.18        | 23.27        | 33.60                              |
|                               | 2Txslots | 29.61      | 29.88 | 30.09 | 6.02                        | 23.59        | 23.86        | 24.07        | 31.00                              |
|                               | 3Txslots | 27.39      | 27.66 | 27.73 | 4.26                        | 23.13        | 23.40        | 23.47        | 28.50                              |
|                               | 4Txslots | 25.18      | 25.53 | 25.60 | 3.01                        | 22.17        | 22.52        | 22.59        | 26.50                              |
| EGPRS<br>(8PSK)               | 1Txslot  | 25.96      | 26.10 | 26.18 | 9.03                        | 16.93        | 17.07        | 17.15        | 27.00                              |
|                               | 2Txslots | 23.71      | 23.86 | 23.82 | 6.02                        | 17.69        | 17.84        | 17.80        | 24.50                              |
|                               | 3Txslots | 21.87      | 21.92 | 21.94 | 4.26                        | 17.61        | 17.66        | 17.68        | 23.00                              |
|                               | 4Txslots | 19.48      | 19.63 | 19.53 | 3.01                        | 16.47        | 16.62        | 16.52        | 21.00                              |
| GSM 850<br>(REC Off+Wi-Fi/BT) |          | Power(dBm) |       |       | Division<br>Factors<br>(dB) | Power(dBm)   |              |              | Burst<br>Tune-up<br>Limit<br>(dBm) |
| Tx Channel                    |          | 128        | 190   | 251   |                             | 128          | 190          | 251          |                                    |
| Frequency(MHz)                |          | 824.2      | 836.6 | 848.8 |                             | 824.2        | 836.6        | 848.8        |                                    |
| GSM(GMSK)                     |          | 28.77      | 29.03 | 29.19 | 9.03                        | 19.74        | 20.00        | 20.16        | 30.60                              |
| GPRS<br>(GMSK)                | 1Txslot  | 28.83      | 29.09 | 29.24 | 9.03                        | 19.80        | 20.06        | 20.21        | 30.60                              |
|                               | 2Txslots | 26.65      | 26.99 | 27.13 | 6.02                        | <b>20.63</b> | <b>20.97</b> | <b>21.11</b> | 28.00                              |
|                               | 3Txslots | 24.51      | 24.74 | 24.95 | 4.26                        | 20.25        | 20.48        | 20.69        | 25.50                              |
|                               | 4Txslots | 22.46      | 22.76 | 22.89 | 3.01                        | 19.45        | 19.75        | 19.88        | 23.50                              |
| EGPRS<br>(GMSK)               | 1Txslot  | 28.71      | 28.97 | 29.12 | 9.03                        | 19.68        | 19.94        | 20.09        | 30.60                              |
|                               | 2Txslots | 26.58      | 26.92 | 27.06 | 6.02                        | 20.56        | 20.90        | 21.04        | 28.00                              |
|                               | 3Txslots | 24.42      | 24.65 | 24.86 | 4.26                        | 20.16        | 20.39        | 20.60        | 25.50                              |
|                               | 4Txslots | 22.40      | 22.70 | 22.83 | 3.01                        | 19.39        | 19.69        | 19.82        | 23.50                              |



|                                         |          |            |       |        |                             |              |              |              |                                    |
|-----------------------------------------|----------|------------|-------|--------|-----------------------------|--------------|--------------|--------------|------------------------------------|
| EGPRS<br>(8PSK)                         | 1Txslot  | 22.96      | 23.21 | 23.14  | 9.03                        | 13.93        | 14.18        | 14.11        | 24.00                              |
|                                         | 2Txslots | 21.06      | 21.14 | 21.21  | 6.02                        | 15.04        | 15.12        | 15.19        | 21.50                              |
|                                         | 3Txslots | 18.86      | 19.04 | 19.11  | 4.26                        | 14.60        | 14.78        | 14.85        | 20.00                              |
|                                         | 4Txslots | 16.93      | 16.90 | 16.82  | 3.01                        | 13.92        | 13.89        | 13.81        | 18.00                              |
| GSM 1900<br>(REC On+Left Head)          |          | Power(dBm) |       |        | Division<br>Factors<br>(dB) | Power(dBm)   |              |              | Burst<br>Tune-up<br>Limit<br>(dBm) |
| Tx Channel                              |          | 512        | 661   | 810    |                             | 512          | 661          | 810          |                                    |
| Frequency(MHz)                          |          | 1850.2     | 1880  | 1909.8 |                             | 1850.2       | 1880         | 1909.8       |                                    |
| GSM(GMSK)                               |          | 29.20      | 29.36 | 29.28  | 9.03                        | <b>20.17</b> | <b>20.33</b> | <b>20.25</b> | 30.00                              |
| GPRS<br>(GMSK)                          | 1Txslot  | 29.27      | 29.41 | 29.42  | 9.03                        | 20.24        | 20.38        | 20.39        | 30.00                              |
|                                         | 2Txslots | 26.83      | 26.89 | 26.93  | 6.02                        | 20.81        | 20.87        | 20.91        | 27.00                              |
|                                         | 3Txslots | 24.63      | 24.78 | 24.75  | 4.26                        | 20.37        | 20.52        | 20.49        | 25.00                              |
|                                         | 4Txslots | 22.38      | 22.54 | 22.40  | 3.01                        | 19.37        | 19.53        | 19.39        | 23.00                              |
| EGPRS<br>(GMSK)                         | 1Txslot  | 29.16      | 29.30 | 29.31  | 9.03                        | 20.13        | 20.27        | 20.28        | 30.00                              |
|                                         | 2Txslots | 26.81      | 26.87 | 26.91  | 6.02                        | 20.79        | 20.85        | 20.89        | 27.50                              |
|                                         | 3Txslots | 24.54      | 24.69 | 24.66  | 4.26                        | 20.28        | 20.43        | 20.40        | 25.00                              |
|                                         | 4Txslots | 22.31      | 22.47 | 22.33  | 3.01                        | 19.30        | 19.46        | 19.32        | 23.00                              |
| EGPRS<br>(8PSK)                         | 1Txslot  | 24.18      | 24.25 | 24.30  | 9.03                        | 15.15        | 15.22        | 15.27        | 25.50                              |
|                                         | 2Txslots | 22.20      | 22.55 | 22.42  | 6.02                        | 16.18        | 16.53        | 16.40        | 23.00                              |
|                                         | 3Txslots | 19.94      | 19.96 | 19.90  | 4.26                        | 15.68        | 15.70        | 15.64        | 20.50                              |
|                                         | 4Txslots | 17.70      | 17.72 | 17.66  | 3.01                        | 14.69        | 14.71        | 14.65        | 18.50                              |
| GSM 1900<br>(REC On+Right Head)         |          | Power(dBm) |       |        | Division<br>Factors<br>(dB) | Power(dBm)   |              |              | Burst<br>Tune-up<br>Limit<br>(dBm) |
| Tx Channel                              |          | 512        | 661   | 810    |                             | 512          | 661          | 810          |                                    |
| Frequency(MHz)                          |          | 1850.2     | 1880  | 1909.8 |                             | 1850.2       | 1880         | 1909.8       |                                    |
| GSM(GMSK)                               |          | 25.72      | 25.86 | 25.87  | 9.03                        | <b>16.69</b> | <b>16.83</b> | <b>16.84</b> | 26.50                              |
| GPRS<br>(GMSK)                          | 1Txslot  | 25.88      | 25.99 | 25.90  | 9.03                        | 16.85        | 16.96        | 16.87        | 26.50                              |
|                                         | 2Txslots | 23.40      | 23.41 | 23.48  | 6.02                        | 17.38        | 17.39        | 17.46        | 23.50                              |
|                                         | 3Txslots | 21.46      | 21.48 | 21.45  | 4.26                        | 17.20        | 17.22        | 17.19        | 21.50                              |
|                                         | 4Txslots | 19.47      | 19.46 | 19.41  | 3.01                        | 16.46        | 16.45        | 16.40        | 19.50                              |
| EGPRS<br>(GMSK)                         | 1Txslot  | 25.77      | 25.88 | 25.79  | 9.03                        | 16.74        | 16.85        | 16.76        | 26.50                              |
|                                         | 2Txslots | 23.58      | 23.69 | 23.66  | 6.02                        | 17.56        | 17.67        | 17.64        | 24.00                              |
|                                         | 3Txslots | 21.47      | 21.49 | 21.46  | 4.26                        | 17.21        | 17.23        | 17.20        | 21.50                              |
|                                         | 4Txslots | 19.40      | 19.49 | 19.44  | 3.01                        | 16.39        | 16.48        | 16.43        | 19.50                              |
| EGPRS<br>(8PSK)                         | 1Txslot  | 21.39      | 21.37 | 21.30  | 9.03                        | 12.36        | 12.34        | 12.27        | 22.00                              |
|                                         | 2Txslots | 19.47      | 19.39 | 19.37  | 6.02                        | 13.45        | 13.37        | 13.35        | 19.50                              |
|                                         | 3Txslots | 16.91      | 16.91 | 16.95  | 4.26                        | 12.65        | 12.65        | 12.69        | 17.00                              |
|                                         | 4Txslots | 14.75      | 14.68 | 14.94  | 3.01                        | 11.74        | 11.67        | 11.93        | 15.00                              |
| GSM 1900<br>(REC On+Left Head+Wi-Fi/BT) |          | Power(dBm) |       |        | Division<br>Factors<br>(dB) | Power(dBm)   |              |              | Burst<br>Tune-up<br>Limit<br>(dBm) |
| Tx Channel                              |          | 512        | 661   | 810    |                             | 512          | 661          | 810          |                                    |



| Frequency(MHz)                              |          | 1850.2     | 1880  | 1909.8 |                             | 1850.2       | 1880         | 1909.8       |                                    |
|---------------------------------------------|----------|------------|-------|--------|-----------------------------|--------------|--------------|--------------|------------------------------------|
| GSM(GMSK)                                   |          | 25.75      | 25.89 | 25.90  | 9.03                        | <b>16.72</b> | <b>16.86</b> | <b>16.87</b> | 27.00                              |
| GPRS<br>(GMSK)                              | 1Txslot  | 25.85      | 25.95 | 25.96  | 9.03                        | 16.82        | 16.92        | 16.93        | 27.00                              |
|                                             | 2Txslots | 23.63      | 23.75 | 23.74  | 6.02                        | 17.61        | 17.73        | 17.72        | 24.00                              |
|                                             | 3Txslots | 21.52      | 21.62 | 21.59  | 4.26                        | 17.26        | 17.36        | 17.33        | 22.00                              |
|                                             | 4Txslots | 19.52      | 19.57 | 19.50  | 3.01                        | 16.51        | 16.56        | 16.49        | 20.00                              |
| EGPRS<br>(GMSK)                             | 1Txslot  | 25.76      | 25.86 | 25.87  | 9.03                        | 16.73        | 16.83        | 16.84        | 27.00                              |
|                                             | 2Txslots | 23.65      | 23.77 | 23.76  | 6.02                        | 17.63        | 17.75        | 17.74        | 24.50                              |
|                                             | 3Txslots | 21.44      | 21.54 | 21.51  | 4.26                        | 17.18        | 17.28        | 17.25        | 22.00                              |
|                                             | 4Txslots | 19.43      | 19.48 | 19.41  | 3.01                        | 16.42        | 16.47        | 16.40        | 20.00                              |
| EGPRS<br>(8PSK)                             | 1Txslot  | 21.36      | 21.35 | 21.24  | 9.03                        | 12.33        | 12.32        | 12.21        | 22.50                              |
|                                             | 2Txslots | 19.26      | 19.27 | 19.38  | 6.02                        | 13.24        | 13.25        | 13.36        | 20.00                              |
|                                             | 3Txslots | 16.85      | 16.84 | 16.76  | 4.26                        | 12.59        | 12.58        | 12.50        | 17.50                              |
|                                             | 4Txslots | 14.61      | 14.60 | 14.52  | 3.01                        | 11.60        | 11.59        | 11.51        | 15.50                              |
| GSM 1900<br>(REC On+Right<br>Head+Wi-Fi/BT) |          | Power(dBm) |       |        | Division<br>Factors<br>(dB) | Power(dBm)   |              |              | Burst<br>Tune-up<br>Limit<br>(dBm) |
| Tx Channel                                  |          | 512        | 661   | 810    |                             | 512          | 661          | 810          |                                    |
| Frequency(MHz)                              |          | 1850.2     | 1880  | 1909.8 |                             | 1850.2       | 1880         | 1909.8       |                                    |
| GSM(GMSK)                                   |          | 22.67      | 22.78 | 22.68  | 9.03                        | <b>13.64</b> | <b>13.75</b> | <b>13.65</b> | 23.50                              |
| GPRS<br>(GMSK)                              | 1Txslot  | 22.66      | 22.85 | 22.74  | 9.03                        | 13.63        | 13.82        | 13.71        | 23.50                              |
|                                             | 2Txslots | 20.46      | 20.46 | 20.42  | 6.02                        | 14.44        | 14.44        | 14.40        | 20.50                              |
|                                             | 3Txslots | 18.46      | 18.46 | 18.45  | 4.26                        | 14.20        | 14.20        | 14.19        | 18.50                              |
|                                             | 4Txslots | 16.41      | 16.48 | 16.45  | 3.01                        | 13.40        | 13.47        | 13.44        | 16.50                              |
| EGPRS<br>(GMSK)                             | 1Txslot  | 22.57      | 22.76 | 22.65  | 9.03                        | 13.54        | 13.73        | 13.62        | 23.50                              |
|                                             | 2Txslots | 20.58      | 20.68 | 20.54  | 6.02                        | 14.56        | 14.66        | 14.52        | 21.00                              |
|                                             | 3Txslots | 18.48      | 18.48 | 18.47  | 4.26                        | 14.22        | 14.22        | 14.21        | 18.50                              |
|                                             | 4Txslots | 16.42      | 16.49 | 16.46  | 3.01                        | 13.41        | 13.48        | 13.45        | 16.50                              |
| EGPRS<br>(8PSK)                             | 1Txslot  | 18.54      | 18.55 | 18.48  | 9.03                        | 9.51         | 9.52         | 9.45         | 19.00                              |
|                                             | 2Txslots | 16.32      | 16.39 | 16.36  | 6.02                        | 10.30        | 10.37        | 10.34        | 16.50                              |
|                                             | 3Txslots | 13.85      | 13.88 | 13.90  | 4.26                        | 9.59         | 9.62         | 9.64         | 14.00                              |
|                                             | 4Txslots | 11.60      | 11.63 | 11.65  | 3.01                        | 8.59         | 8.62         | 8.64         | 12.00                              |
| GSM 1900<br>(REC Off)                       |          | Power(dBm) |       |        | Division<br>Factors<br>(dB) | Power(dBm)   |              |              | Burst<br>Tune-up<br>Limit<br>(dBm) |
| Tx Channel                                  |          | 512        | 661   | 810    |                             | 512          | 661          | 810          |                                    |
| Frequency(MHz)                              |          | 1850.2     | 1880  | 1909.8 |                             | 1850.2       | 1880         | 1909.8       |                                    |
| GSM(GMSK)                                   |          | 30.44      | 30.64 | 30.71  | 9.03                        | 21.41        | 21.61        | 21.68        | 31.00                              |
| GPRS<br>(GMSK)                              | 1Txslot  | 30.47      | 27.61 | 30.56  | 9.03                        | 21.44        | 18.58        | 21.53        | 31.00                              |
|                                             | 2Txslots | 27.78      | 27.90 | 27.81  | 6.02                        | 21.76        | 21.88        | 21.79        | 28.00                              |
|                                             | 3Txslots | 25.41      | 25.56 | 25.53  | 4.26                        | 21.15        | 21.30        | 21.27        | 26.00                              |
|                                             | 4Txslots | 23.34      | 23.44 | 23.44  | 3.01                        | 20.33        | 20.43        | 20.43        | 24.00                              |
| EGPRS<br>(GMSK)                             | 1Txslot  | 30.24      | 30.63 | 30.52  | 9.03                        | 21.21        | 21.60        | 21.49        | 31.00                              |
|                                             | 2Txslots | 27.84      | 27.98 | 27.91  | 6.02                        | <b>21.82</b> | <b>21.96</b> | <b>21.89</b> | 28.50                              |



|                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |            |       |        |                             |              |              |              |                                    |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|-------|--------|-----------------------------|--------------|--------------|--------------|------------------------------------|
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3Txslots | 25.48      | 25.55 | 25.45  | 4.26                        | 21.22        | 21.29        | 21.19        | 26.00                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4Txslots | 23.26      | 23.37 | 23.49  | 3.01                        | 20.25        | 20.36        | 20.48        | 24.00                              |
| EGPRS<br>(8PSK)                                                                                                                                                                                                                                                                                                                                                                                                                             | 1Txslot  | 25.54      | 25.57 | 25.51  | 9.03                        | 16.51        | 16.54        | 16.48        | 26.50                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2Txslots | 22.99      | 22.96 | 22.94  | 6.02                        | 16.97        | 16.94        | 16.92        | 24.00                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3Txslots | 20.98      | 20.99 | 20.89  | 4.26                        | 16.72        | 16.73        | 16.63        | 21.50                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4Txslots | 18.54      | 18.69 | 18.64  | 3.01                        | 15.53        | 15.68        | 15.63        | 19.50                              |
| GSM 1900<br>(REC Off+Wi-Fi/BT)                                                                                                                                                                                                                                                                                                                                                                                                              |          | Power(dBm) |       |        | Division<br>Factors<br>(dB) | Power(dBm)   |              |              | Burst<br>Tune-up<br>Limit<br>(dBm) |
| Tx Channel                                                                                                                                                                                                                                                                                                                                                                                                                                  |          | 512        | 661   | 810    |                             | 512          | 661          | 810          |                                    |
| Frequency(MHz)                                                                                                                                                                                                                                                                                                                                                                                                                              |          | 1850.2     | 1880  | 1909.8 |                             | 1850.2       | 1880         | 1909.8       |                                    |
| GSM(GMSK)                                                                                                                                                                                                                                                                                                                                                                                                                                   |          | 26.80      | 26.97 | 27.00  |                             | 17.77        | 17.94        | 17.97        |                                    |
| GPRS<br>(GMSK)                                                                                                                                                                                                                                                                                                                                                                                                                              | 1Txslot  | 26.78      | 26.92 | 27.05  | 9.03                        | 17.75        | 17.89        | 18.02        | 28.00                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2Txslots | 24.65      | 24.78 | 24.74  | 6.02                        | 18.63        | 18.76        | 18.72        | 25.00                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3Txslots | 22.43      | 22.51 | 22.56  | 4.26                        | 18.17        | 18.25        | 18.30        | 23.00                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4Txslots | 20.45      | 20.54 | 20.48  | 3.01                        | 17.44        | 17.53        | 17.47        | 21.00                              |
| EGPRS<br>(GMSK)                                                                                                                                                                                                                                                                                                                                                                                                                             | 1Txslot  | 26.70      | 26.84 | 26.97  | 9.03                        | 17.67        | 17.81        | 17.94        | 28.00                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2Txslots | 24.66      | 24.79 | 24.75  | 6.02                        | <b>18.64</b> | <b>18.77</b> | <b>18.73</b> | 25.50                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3Txslots | 22.34      | 22.42 | 22.47  | 4.26                        | 18.08        | 18.16        | 18.21        | 23.00                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4Txslots | 20.37      | 20.46 | 20.40  | 3.01                        | 17.36        | 17.45        | 17.39        | 21.00                              |
| EGPRS<br>(8PSK)                                                                                                                                                                                                                                                                                                                                                                                                                             | 1Txslot  | 22.36      | 22.40 | 22.37  | 9.03                        | 13.33        | 13.37        | 13.34        | 23.50                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2Txslots | 20.37      | 20.32 | 20.16  | 6.02                        | 14.35        | 14.30        | 14.14        | 21.00                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 3Txslots | 18.34      | 18.41 | 18.04  | 4.26                        | 14.08        | 14.15        | 13.78        | 18.50                              |
|                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4Txslots | 16.05      | 15.96 | 15.83  | 3.01                        | 13.04        | 12.95        | 12.82        | 16.50                              |
| <p>Notes: The worst-case configuration and mode for SAR testing is determined to be as follows:</p> <ol style="list-style-type: none"> <li>1. GSM 850 GMSK (GPRS) mode with 2 time slots for Max power, GSM 1900 GMSK (EGPRS) mode with 2 time slots for Max power, based on the output power measurements above.</li> <li>2. SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode.</li> </ol> |          |            |       |        |                             |              |              |              |                                    |





## 9.2 WCDMA Mode

The following tests were completed according to the test requirements outlined in the 3GPP TS34.121 specification.

### (Antenna 1)

| WCDMA          |          | Band II(dBm)<br>(REC On/Off, Hotspot Off) |        |        |         | Band II(dBm)<br>(REC On/Off, Hotspot On) |        |        |         | Band II(dBm)<br>(Hotspot Off+Sensor On) |        |        |         |
|----------------|----------|-------------------------------------------|--------|--------|---------|------------------------------------------|--------|--------|---------|-----------------------------------------|--------|--------|---------|
| Tx Channel     |          | 9262                                      | 9400   | 9538   | Tune-up | 9262                                     | 9400   | 9538   | Tune-up | 9262                                    | 9400   | 9538   | Tune-up |
| Frequency(MHz) |          | 1852.4                                    | 1880   | 1907.6 | Limit   | 1852.4                                   | 1880   | 1907.6 | Limit   | 1852.4                                  | 1880   | 1907.6 | Limit   |
| RMC            | 12.2kbps | 23.78                                     | 23.74  | 23.68  | 24.50   | 18.05                                    | 18.13  | 18.07  | 19.00   | 22.66                                   | 22.84  | 22.81  | 23.50   |
| AMR            | 12.2kbps | 23.72                                     | 23.68  | 23.62  | 24.50   | 17.99                                    | 18.07  | 18.01  | 19.00   | 22.60                                   | 22.78  | 22.75  | 23.50   |
| HSDPA          | Sub 1    | 23.21                                     | 23.17  | 23.11  | 24.00   | 17.48                                    | 17.56  | 17.50  | 18.50   | 22.09                                   | 22.27  | 22.24  | 23.00   |
|                | Sub 2    | 22.73                                     | 22.69  | 22.63  | 23.50   | 17.00                                    | 17.08  | 17.02  | 18.00   | 21.61                                   | 21.79  | 21.76  | 22.50   |
|                | Sub 3    | 22.22                                     | 22.18  | 22.12  | 23.00   | 16.49                                    | 16.57  | 16.51  | 17.50   | 21.10                                   | 21.28  | 21.25  | 22.00   |
|                | Sub 4    | 22.21                                     | 22.17  | 22.11  | 23.00   | 16.48                                    | 16.56  | 16.50  | 17.50   | 21.09                                   | 21.27  | 21.24  | 22.00   |
| HSUPA          | Sub 1    | 22.20                                     | 22.16  | 22.10  | 23.00   | 16.47                                    | 16.55  | 16.49  | 17.50   | 21.08                                   | 21.26  | 21.23  | 22.00   |
|                | Sub 2    | 19.33                                     | 19.29  | 19.23  | 20.00   | 13.60                                    | 13.68  | 13.62  | 14.50   | 18.21                                   | 18.39  | 18.36  | 19.00   |
|                | Sub 3    | 20.18                                     | 20.14  | 20.24  | 21.00   | 14.45                                    | 14.53  | 14.63  | 15.50   | 19.06                                   | 19.24  | 19.37  | 20.00   |
|                | Sub 4    | 19.28                                     | 19.24  | 19.21  | 20.00   | 13.55                                    | 13.63  | 13.60  | 14.50   | 18.16                                   | 18.34  | 18.34  | 19.00   |
|                | Sub 5    | 21.76                                     | 21.72  | 21.66  | 22.50   | 16.03                                    | 16.11  | 16.05  | 17.00   | 20.64                                   | 20.82  | 20.79  | 21.50   |
| DC-HSDPA       | Sub 1    | 23.25                                     | 23.17  | 23.11  | 24.00   | 17.52                                    | 17.56  | 17.50  | 18.50   | 22.13                                   | 22.27  | 22.24  | 23.00   |
|                | Sub 2    | 22.74                                     | 22.66  | 22.60  | 23.50   | 17.01                                    | 17.05  | 16.99  | 18.00   | 21.62                                   | 21.76  | 21.73  | 22.50   |
|                | Sub 3    | 22.29                                     | 22.21  | 22.15  | 23.00   | 16.56                                    | 16.60  | 16.54  | 17.50   | 21.17                                   | 21.31  | 21.28  | 22.00   |
|                | Sub 4    | 22.28                                     | 22.30  | 22.13  | 23.00   | 16.55                                    | 16.69  | 16.52  | 17.50   | 21.16                                   | 21.40  | 21.26  | 22.00   |
| WCDMA          |          | Band IV(dBm)<br>(REC On/Off, Hotspot Off) |        |        |         | Band IV(dBm)<br>(REC On/Off, Hotspot On) |        |        |         | Band IV(dBm)<br>(Hotspot Off+Sensor On) |        |        |         |
| Tx Channel     |          | 1312                                      | 1413   | 1513   | Tune-up | 1312                                     | 1413   | 1513   | Tune-up | 1312                                    | 1413   | 1513   | Tune-up |
| Frequency(MHz) |          | 1712.4                                    | 1732.6 | 1752.6 | Limit   | 1712.4                                   | 1732.6 | 1752.6 | Limit   | 1712.4                                  | 1732.6 | 1752.6 | Limit   |
| RMC            | 12.2kbps | 23.68                                     | 23.69  | 23.72  | 24.50   | 17.55                                    | 17.57  | 17.51  | 18.50   | 21.08                                   | 21.06  | 21.04  | 22.00   |
| AMR            | 12.2kbps | 23.62                                     | 23.63  | 23.66  | 24.50   | 17.49                                    | 17.51  | 17.45  | 18.50   | 21.02                                   | 21.00  | 20.98  | 22.00   |
| HSDPA          | Sub 1    | 23.01                                     | 23.02  | 23.05  | 24.00   | 16.98                                    | 17.00  | 16.94  | 18.00   | 20.51                                   | 20.49  | 20.47  | 21.50   |
|                | Sub 2    | 22.53                                     | 22.54  | 22.57  | 23.50   | 16.50                                    | 16.52  | 16.46  | 17.50   | 20.03                                   | 20.01  | 19.99  | 21.00   |
|                | Sub 3    | 22.02                                     | 22.03  | 22.06  | 23.00   | 15.99                                    | 16.01  | 15.95  | 17.00   | 19.52                                   | 19.50  | 19.48  | 20.50   |
|                | Sub 4    | 22.01                                     | 22.02  | 22.05  | 23.00   | 15.98                                    | 16.00  | 15.94  | 17.00   | 19.51                                   | 19.49  | 19.47  | 20.50   |
| HSUPA          | Sub 1    | 22.00                                     | 22.01  | 22.04  | 23.00   | 15.97                                    | 15.99  | 15.93  | 17.00   | 19.50                                   | 19.48  | 19.46  | 20.50   |
|                | Sub 2    | 19.13                                     | 19.14  | 19.17  | 20.00   | 13.10                                    | 13.12  | 13.06  | 14.00   | 16.63                                   | 16.61  | 16.59  | 17.50   |
|                | Sub 3    | 19.98                                     | 19.99  | 20.18  | 21.00   | 13.95                                    | 13.97  | 14.07  | 15.00   | 17.48                                   | 17.46  | 17.60  | 18.50   |
|                | Sub 4    | 19.08                                     | 19.09  | 19.15  | 20.00   | 13.05                                    | 13.07  | 13.04  | 14.00   | 16.58                                   | 16.56  | 16.57  | 17.50   |
|                | Sub 5    | 21.56                                     | 21.57  | 21.60  | 22.50   | 15.53                                    | 15.55  | 15.49  | 16.50   | 19.06                                   | 19.04  | 19.02  | 20.00   |
| DC-HSDPA       | Sub 1    | 23.05                                     | 23.02  | 23.05  | 24.00   | 17.02                                    | 17.00  | 16.94  | 18.00   | 20.55                                   | 20.49  | 20.47  | 21.50   |
|                | Sub 2    | 22.54                                     | 22.51  | 22.54  | 23.50   | 16.51                                    | 16.49  | 16.43  | 17.50   | 20.04                                   | 19.98  | 19.96  | 21.00   |
|                | Sub 3    | 22.09                                     | 22.06  | 22.09  | 23.00   | 16.06                                    | 16.04  | 15.98  | 17.00   | 19.59                                   | 19.53  | 19.51  | 20.50   |





|                | Sub 4    | 22.08                                    | 22.15 | 22.07 | 23.00 | 16.05 | 16.13 | 15.96 | 17.00 | 19.58 | 19.62         | 19.49 | 20.50 |
|----------------|----------|------------------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|---------------|-------|-------|
| WCDMA          |          | Band V(dBm)<br>(REC On/Off, Hotspot Off) |       |       |       |       |       |       |       |       |               |       |       |
| Tx Channel     |          | 4132                                     |       |       | 4183  |       |       | 4233  |       |       | Tune-up Limit |       |       |
| Frequency(MHz) |          | 826.4                                    |       |       | 836.6 |       |       | 846.6 |       |       |               |       |       |
| RMC            | 12.2kbps | 23.27                                    |       |       | 23.25 |       |       | 23.17 |       |       | 24.50         |       |       |
| AMR            | 12.2kbps | 23.21                                    |       |       | 23.19 |       |       | 23.11 |       |       | 24.50         |       |       |
| HSDPA          | Sub 1    | 22.70                                    |       |       | 22.68 |       |       | 22.60 |       |       | 24.00         |       |       |
|                | Sub 2    | 22.22                                    |       |       | 22.20 |       |       | 22.12 |       |       | 23.50         |       |       |
|                | Sub 3    | 21.71                                    |       |       | 21.69 |       |       | 21.61 |       |       | 23.00         |       |       |
|                | Sub 4    | 21.70                                    |       |       | 21.68 |       |       | 21.60 |       |       | 23.00         |       |       |
| HSUPA          | Sub 1    | 21.69                                    |       |       | 21.67 |       |       | 21.59 |       |       | 23.00         |       |       |
|                | Sub 2    | 19.82                                    |       |       | 19.80 |       |       | 19.72 |       |       | 21.00         |       |       |
|                | Sub 3    | 20.67                                    |       |       | 20.65 |       |       | 20.73 |       |       | 22.00         |       |       |
|                | Sub 4    | 20.27                                    |       |       | 20.25 |       |       | 20.20 |       |       | 21.50         |       |       |
|                | Sub 5    | 21.25                                    |       |       | 21.23 |       |       | 21.15 |       |       | 22.50         |       |       |
| DC-HSDPA       | Sub 1    | 22.74                                    |       |       | 22.68 |       |       | 22.60 |       |       | 24.00         |       |       |
|                | Sub 2    | 22.23                                    |       |       | 22.17 |       |       | 22.09 |       |       | 23.50         |       |       |
|                | Sub 3    | 21.78                                    |       |       | 21.72 |       |       | 21.64 |       |       | 23.00         |       |       |
|                | Sub 4    | 21.77                                    |       |       | 21.81 |       |       | 21.62 |       |       | 23.00         |       |       |

Note: 1. Per KDB 941225 D01, SAR for Head / Hotspot / Body-worn exposure is measured using a 12.2 kbps AMR with TPC bits configured to all "1's".

2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.



## (Antenna 2)

| WCDMA          |          | Band II(dBm)<br>(REC On+Left Head)           |       |        |         | Band II(dBm)<br>(REC On+Right Head) |       |        |         | Band II(dBm)<br>(REC On+Left Head+Wi-Fi/BT) |       |        |         |
|----------------|----------|----------------------------------------------|-------|--------|---------|-------------------------------------|-------|--------|---------|---------------------------------------------|-------|--------|---------|
| Tx Channel     |          | 9262                                         | 9400  | 9538   | Tune-up | 9262                                | 9400  | 9538   | Tune-up | 9262                                        | 9400  | 9538   | Tune-up |
| Frequency(MHz) |          | 1852.4                                       | 1880  | 1907.6 | Limit   | 1852.4                              | 1880  | 1907.6 | Limit   | 1852.4                                      | 1880  | 1907.6 | Limit   |
| RMC            | 12.2kbps | 18.69                                        | 18.72 | 18.71  | 19.50   | 15.75                               | 15.84 | 15.90  | 17.00   | 14.89                                       | 14.81 | 15.04  | 16.50   |
| AMR            | 12.2kbps | 18.63                                        | 18.66 | 18.65  | 19.50   | 15.69                               | 15.78 | 15.84  | 17.00   | 14.83                                       | 14.75 | 14.98  | 16.50   |
| HSDPA          | Sub 1    | 18.62                                        | 18.65 | 18.64  | 19.50   | 15.68                               | 15.77 | 15.83  | 17.00   | 14.82                                       | 14.74 | 14.97  | 16.50   |
|                | Sub 2    | 17.64                                        | 17.67 | 17.66  | 18.50   | 14.70                               | 14.79 | 14.85  | 16.00   | 13.84                                       | 13.76 | 13.99  | 15.50   |
|                | Sub 3    | 17.13                                        | 17.16 | 17.15  | 18.00   | 14.19                               | 14.28 | 14.34  | 15.50   | 13.33                                       | 13.25 | 13.48  | 15.00   |
|                | Sub 4    | 17.12                                        | 17.15 | 17.14  | 18.00   | 14.18                               | 14.27 | 14.33  | 15.50   | 13.32                                       | 13.24 | 13.47  | 15.00   |
| HSUPA          | Sub 1    | 17.11                                        | 17.14 | 17.13  | 18.00   | 14.17                               | 14.26 | 14.32  | 15.50   | 13.31                                       | 13.23 | 13.46  | 15.00   |
|                | Sub 2    | 14.74                                        | 14.77 | 14.76  | 15.50   | 11.80                               | 11.89 | 11.95  | 13.00   | 10.94                                       | 10.86 | 11.09  | 12.50   |
|                | Sub 3    | 15.09                                        | 15.12 | 15.27  | 16.00   | 12.15                               | 12.24 | 12.46  | 13.50   | 11.29                                       | 11.21 | 11.60  | 13.00   |
|                | Sub 4    | 14.69                                        | 14.72 | 14.74  | 15.50   | 11.75                               | 11.84 | 11.93  | 13.00   | 10.89                                       | 10.81 | 11.07  | 12.50   |
|                | Sub 5    | 17.17                                        | 17.20 | 17.19  | 18.00   | 14.23                               | 14.32 | 14.38  | 15.50   | 13.37                                       | 13.29 | 13.52  | 15.00   |
| DC-HSDPA       | Sub 1    | 18.66                                        | 18.65 | 18.64  | 19.50   | 15.72                               | 15.77 | 15.83  | 17.00   | 14.86                                       | 14.74 | 14.97  | 16.50   |
|                | Sub 2    | 17.65                                        | 17.64 | 17.63  | 18.50   | 14.71                               | 14.76 | 14.82  | 16.00   | 13.85                                       | 13.73 | 13.96  | 15.50   |
|                | Sub 3    | 17.20                                        | 17.19 | 17.18  | 18.00   | 14.26                               | 14.31 | 14.37  | 15.50   | 13.40                                       | 13.28 | 13.51  | 15.00   |
|                | Sub 4    | 17.19                                        | 17.28 | 17.16  | 18.00   | 14.25                               | 14.40 | 14.35  | 15.50   | 13.39                                       | 13.37 | 13.49  | 15.00   |
| WCDMA          |          | Band II(dBm)<br>(REC On+Right Head+Wi-Fi/BT) |       |        |         | Band II(dBm)<br>(REC Off)           |       |        |         | Band II(dBm)<br>(REC Off+Wi-Fi/BT)          |       |        |         |
| Tx Channel     |          | 9262                                         | 9400  | 9538   | Tune-up | 9262                                | 9400  | 9538   | Tune-up | 9262                                        | 9400  | 9538   | Tune-up |
| Frequency(MHz) |          | 1852.4                                       | 1880  | 1907.6 | Limit   | 1852.4                              | 1880  | 1907.6 | Limit   | 1852.4                                      | 1880  | 1907.6 | Limit   |
| RMC            | 12.2kbps | 12.44                                        | 12.51 | 12.52  | 14.00   | 21.66                               | 21.71 | 21.74  | 22.50   | 20.66                                       | 20.70 | 20.50  | 21.50   |
| AMR            | 12.2kbps | 12.38                                        | 12.45 | 12.46  | 14.00   | 21.60                               | 21.65 | 21.68  | 22.50   | 20.60                                       | 20.64 | 20.44  | 21.50   |
| HSDPA          | Sub 1    | 12.37                                        | 12.44 | 12.45  | 14.00   | 21.59                               | 21.64 | 21.67  | 22.50   | 20.59                                       | 20.63 | 20.43  | 21.50   |
|                | Sub 2    | 11.39                                        | 11.46 | 11.47  | 13.00   | 20.61                               | 20.66 | 20.69  | 21.50   | 19.61                                       | 19.65 | 19.45  | 20.50   |
|                | Sub 3    | 10.88                                        | 10.95 | 10.96  | 12.50   | 20.10                               | 20.15 | 20.18  | 21.00   | 19.10                                       | 19.14 | 18.94  | 20.00   |
|                | Sub 4    | 10.87                                        | 10.94 | 10.95  | 12.50   | 20.09                               | 20.14 | 20.17  | 21.00   | 19.09                                       | 19.13 | 18.93  | 20.00   |
| HSUPA          | Sub 1    | 10.86                                        | 10.93 | 10.94  | 12.50   | 20.08                               | 20.13 | 20.16  | 21.00   | 19.08                                       | 19.12 | 18.92  | 20.00   |
|                | Sub 2    | 8.49                                         | 8.56  | 8.57   | 10.00   | 17.71                               | 17.76 | 17.79  | 18.50   | 16.71                                       | 16.75 | 16.55  | 17.50   |
|                | Sub 3    | 8.84                                         | 8.91  | 9.08   | 10.50   | 18.06                               | 18.11 | 18.30  | 19.00   | 17.06                                       | 17.10 | 17.06  | 18.00   |
|                | Sub 4    | 8.44                                         | 8.51  | 8.55   | 10.00   | 17.66                               | 17.71 | 17.77  | 18.50   | 16.66                                       | 16.70 | 16.53  | 17.50   |
|                | Sub 5    | 10.92                                        | 10.99 | 11.00  | 12.50   | 20.14                               | 20.19 | 20.22  | 21.00   | 19.14                                       | 19.18 | 18.98  | 20.00   |
| DC-HSDPA       | Sub 1    | 12.41                                        | 12.44 | 12.45  | 14.00   | 21.63                               | 21.64 | 21.67  | 22.50   | 20.63                                       | 20.63 | 20.43  | 21.50   |
|                | Sub 2    | 11.40                                        | 11.43 | 11.44  | 13.00   | 20.62                               | 20.63 | 20.66  | 21.50   | 19.62                                       | 19.62 | 19.42  | 20.50   |
|                | Sub 3    | 10.95                                        | 10.98 | 10.99  | 12.50   | 20.17                               | 20.18 | 20.21  | 21.00   | 19.17                                       | 19.17 | 18.97  | 20.00   |
|                | Sub 4    | 10.94                                        | 11.07 | 10.97  | 12.50   | 20.16                               | 20.27 | 20.19  | 21.00   | 19.16                                       | 19.26 | 18.95  | 20.00   |



| WCDMA          |          | Band IV(dBm)<br>(REC On+Left Head)           |        |        |         | Band IV(dBm)<br>(REC On+Right Head) |        |        |         | Band IV(dBm)<br>(REC On+Left Head+Wi-Fi/BT) |        |        |         |
|----------------|----------|----------------------------------------------|--------|--------|---------|-------------------------------------|--------|--------|---------|---------------------------------------------|--------|--------|---------|
| Tx Channel     |          | 1312                                         | 1413   | 1513   | Tune-up | 1312                                | 1413   | 1513   | Tune-up | 1312                                        | 1413   | 1513   | Tune-up |
| Frequency(MHz) |          | 1712.4                                       | 1732.6 | 1752.6 | Limit   | 1712.4                              | 1732.6 | 1752.6 | Limit   | 1712.4                                      | 1732.6 | 1752.6 | Limit   |
| RMC            | 12.2kbps | 20.12                                        | 20.13  | 19.97  | 20.50   | 17.18                               | 17.07  | 17.04  | 17.50   | 17.12                                       | 17.14  | 17.09  | 17.50   |
| AMR            | 12.2kbps | 20.06                                        | 20.07  | 19.91  | 20.50   | 17.12                               | 17.01  | 16.98  | 17.50   | 17.06                                       | 17.08  | 17.03  | 17.50   |
| HSDPA          | Sub 1    | 20.05                                        | 20.06  | 19.90  | 20.50   | 17.11                               | 17.00  | 16.97  | 17.50   | 17.05                                       | 17.07  | 17.02  | 17.50   |
|                | Sub 2    | 19.57                                        | 19.58  | 19.42  | 20.00   | 16.63                               | 16.52  | 16.49  | 17.00   | 16.57                                       | 16.59  | 16.54  | 17.00   |
|                | Sub 3    | 18.56                                        | 18.57  | 18.41  | 19.00   | 15.62                               | 15.51  | 15.48  | 16.00   | 15.56                                       | 15.58  | 15.53  | 16.00   |
|                | Sub 4    | 18.55                                        | 18.56  | 18.40  | 19.00   | 15.61                               | 15.50  | 15.47  | 16.00   | 15.55                                       | 15.57  | 15.52  | 16.00   |
| HSUPA          | Sub 1    | 18.54                                        | 18.55  | 18.39  | 19.00   | 15.60                               | 15.49  | 15.46  | 16.00   | 15.54                                       | 15.56  | 15.51  | 16.00   |
|                | Sub 2    | 16.17                                        | 16.18  | 16.02  | 16.50   | 13.23                               | 13.12  | 13.09  | 13.50   | 13.17                                       | 13.19  | 13.14  | 13.50   |
|                | Sub 3    | 17.02                                        | 17.03  | 17.03  | 17.50   | 14.08                               | 13.97  | 14.10  | 14.50   | 14.02                                       | 14.04  | 14.15  | 14.50   |
|                | Sub 4    | 16.12                                        | 16.13  | 16.00  | 16.50   | 13.18                               | 13.07  | 13.07  | 13.50   | 13.12                                       | 13.14  | 13.12  | 13.50   |
|                | Sub 5    | 18.60                                        | 18.61  | 18.45  | 19.00   | 15.66                               | 15.55  | 15.52  | 16.00   | 15.60                                       | 15.62  | 15.57  | 16.00   |
| DC-HSDPA       | Sub 1    | 20.09                                        | 20.06  | 19.90  | 20.50   | 17.15                               | 17.00  | 16.97  | 17.50   | 17.09                                       | 17.07  | 17.02  | 17.50   |
|                | Sub 2    | 19.58                                        | 19.55  | 19.39  | 20.00   | 16.64                               | 16.49  | 16.46  | 17.00   | 16.58                                       | 16.56  | 16.51  | 17.00   |
|                | Sub 3    | 18.63                                        | 18.60  | 18.44  | 19.00   | 15.69                               | 15.54  | 15.51  | 16.00   | 15.63                                       | 15.61  | 15.56  | 16.00   |
|                | Sub 4    | 18.62                                        | 18.69  | 18.42  | 19.00   | 15.68                               | 15.63  | 15.49  | 16.00   | 15.62                                       | 15.70  | 15.54  | 16.00   |
| WCDMA          |          | Band IV(dBm)<br>(REC On+Right Head+Wi-Fi/BT) |        |        |         | Band IV(dBm)<br>(REC Off)           |        |        |         | Band IV(dBm)<br>(REC Off+Wi-Fi/BT)          |        |        |         |
| Tx Channel     |          | 1312                                         | 1413   | 1513   | Tune-up | 1312                                | 1413   | 1513   | Tune-up | 1312                                        | 1413   | 1513   | Tune-up |
| Frequency(MHz) |          | 1712.4                                       | 1732.6 | 1752.6 | Limit   | 1712.4                              | 1732.6 | 1752.6 | Limit   | 1712.4                                      | 1732.6 | 1752.6 | Limit   |
| RMC            | 12.2kbps | 14.99                                        | 14.81  | 14.22  | 15.00   | 24.16                               | 24.03  | 24.02  | 24.50   | 21.08                                       | 21.11  | 20.97  | 21.50   |
| AMR            | 12.2kbps | 14.93                                        | 14.75  | 14.16  | 15.00   | 24.10                               | 23.97  | 23.96  | 24.50   | 21.02                                       | 21.05  | 20.91  | 21.50   |
| HSDPA          | Sub 1    | 14.92                                        | 14.74  | 14.15  | 15.00   | 24.09                               | 23.96  | 23.95  | 24.50   | 21.01                                       | 21.04  | 20.90  | 21.50   |
|                | Sub 2    | 14.44                                        | 14.26  | 13.67  | 14.50   | 23.61                               | 23.48  | 23.47  | 24.00   | 20.53                                       | 20.56  | 20.42  | 21.00   |
|                | Sub 3    | 13.43                                        | 13.25  | 12.66  | 13.50   | 22.60                               | 22.47  | 22.46  | 23.00   | 19.52                                       | 19.55  | 19.41  | 20.00   |
|                | Sub 4    | 13.42                                        | 13.24  | 12.65  | 13.50   | 22.59                               | 22.46  | 22.45  | 23.00   | 19.51                                       | 19.54  | 19.40  | 20.00   |
| HSUPA          | Sub 1    | 13.41                                        | 13.23  | 12.64  | 13.50   | 22.58                               | 22.45  | 22.44  | 23.00   | 19.50                                       | 19.53  | 19.39  | 20.00   |
|                | Sub 2    | 11.04                                        | 10.86  | 10.27  | 11.00   | 20.21                               | 20.08  | 20.07  | 20.50   | 17.13                                       | 17.16  | 17.02  | 17.50   |
|                | Sub 3    | 11.89                                        | 11.71  | 11.28  | 12.00   | 21.06                               | 20.93  | 21.08  | 21.50   | 17.98                                       | 18.01  | 18.03  | 18.50   |
|                | Sub 4    | 10.99                                        | 10.81  | 10.25  | 11.00   | 20.16                               | 20.03  | 20.05  | 20.50   | 17.08                                       | 17.11  | 17.00  | 17.50   |
|                | Sub 5    | 13.47                                        | 13.29  | 12.70  | 13.50   | 22.64                               | 22.51  | 22.50  | 23.00   | 19.56                                       | 19.59  | 19.45  | 20.00   |
| DC-HSDPA       | Sub 1    | 14.96                                        | 14.74  | 14.15  | 15.00   | 24.13                               | 23.96  | 23.95  | 24.50   | 21.05                                       | 21.04  | 20.90  | 21.50   |
|                | Sub 2    | 14.45                                        | 14.23  | 13.64  | 14.50   | 23.62                               | 23.45  | 23.44  | 24.00   | 20.54                                       | 20.53  | 20.39  | 21.00   |
|                | Sub 3    | 13.50                                        | 13.28  | 12.69  | 13.50   | 22.67                               | 22.50  | 22.49  | 23.00   | 19.59                                       | 19.58  | 19.44  | 20.00   |
|                | Sub 4    | 13.49                                        | 13.37  | 12.67  | 13.50   | 22.66                               | 22.59  | 22.47  | 23.00   | 19.58                                       | 19.67  | 19.42  | 20.00   |
| WCDMA          |          | Band V(dBm)<br>(REC On+Left Head)            |        |        |         | Band V(dBm)<br>(REC On+Right Head)  |        |        |         | Band V(dBm)<br>(REC On+Left Head+Wi-Fi/BT)  |        |        |         |
| Tx Channel     |          | 4132                                         | 4183   | 4233   | Tune-up | 4132                                | 4183   | 4233   | Tune-up | 4132                                        | 4183   | 4233   | Tune-up |
| Frequency(MHz) |          | 826.4                                        | 836.6  | 846.6  | Limit   | 826.4                               | 836.6  | 846.6  | Limit   | 826.4                                       | 836.6  | 846.6  | Limit   |
| RMC            | 12.2kbps | 19.48                                        | 19.53  | 19.56  | 20.50   | 18.95                               | 19.07  | 19.06  | 20.00   | 16.52                                       | 16.62  | 16.59  | 17.50   |



|                |          |                                             |       |       |                  |                          |       |       |                  |                                   |       |       |                  |
|----------------|----------|---------------------------------------------|-------|-------|------------------|--------------------------|-------|-------|------------------|-----------------------------------|-------|-------|------------------|
| AMR            | 12.2kbps | 19.42                                       | 19.47 | 19.50 | 20.50            | 18.89                    | 19.01 | 19.00 | 20.00            | 16.46                             | 16.51 | 16.53 | 17.50            |
| HSDPA          | Sub 1    | 19.41                                       | 19.46 | 19.49 | 20.50            | 18.38                    | 18.50 | 18.49 | 19.50            | 15.95                             | 16.00 | 16.02 | 17.00            |
|                | Sub 2    | 18.93                                       | 18.98 | 19.01 | 20.00            | 17.90                    | 18.02 | 18.01 | 19.00            | 15.47                             | 15.52 | 15.54 | 16.50            |
|                | Sub 3    | 17.92                                       | 17.97 | 18.00 | 19.00            | 17.39                    | 17.51 | 17.50 | 18.50            | 14.96                             | 15.01 | 15.03 | 16.00            |
|                | Sub 4    | 17.91                                       | 17.96 | 17.99 | 19.00            | 17.38                    | 17.50 | 17.49 | 18.50            | 14.95                             | 15.00 | 15.02 | 16.00            |
| HSUPA          | Sub 1    | 17.90                                       | 17.95 | 17.98 | 19.00            | 17.87                    | 17.99 | 17.98 | 19.00            | 15.44                             | 15.49 | 15.51 | 16.50            |
|                | Sub 2    | 15.53                                       | 15.58 | 15.61 | 16.50            | 16.00                    | 16.12 | 16.11 | 17.00            | 13.57                             | 13.62 | 13.64 | 14.50            |
|                | Sub 3    | 16.38                                       | 16.43 | 16.62 | 17.50            | 15.85                    | 15.97 | 16.12 | 17.00            | 13.42                             | 13.47 | 13.65 | 14.50            |
|                | Sub 4    | 15.48                                       | 15.53 | 15.59 | 16.50            | 14.95                    | 15.07 | 15.09 | 16.00            | 12.52                             | 12.57 | 12.62 | 13.50            |
|                | Sub 5    | 17.96                                       | 18.01 | 18.04 | 19.00            | 17.93                    | 18.05 | 18.04 | 19.00            | 15.50                             | 15.55 | 15.57 | 16.50            |
| DC-HSDPA       | Sub 1    | 19.45                                       | 19.46 | 19.49 | 20.50            | 18.42                    | 18.50 | 18.49 | 19.50            | 15.99                             | 16.00 | 16.02 | 17.00            |
|                | Sub 2    | 18.94                                       | 18.95 | 18.98 | 20.00            | 17.91                    | 17.99 | 17.98 | 19.00            | 15.48                             | 15.49 | 15.51 | 16.50            |
|                | Sub 3    | 17.99                                       | 18.00 | 18.03 | 19.00            | 17.46                    | 17.54 | 17.53 | 18.50            | 15.03                             | 15.04 | 15.06 | 16.00            |
|                | Sub 4    | 17.98                                       | 18.09 | 18.01 | 19.00            | 17.45                    | 17.63 | 17.51 | 18.50            | 15.02                             | 15.13 | 15.04 | 16.00            |
| WCDMA          |          | Band V(dBm)<br>(REC On+Right Head+Wi-Fi/BT) |       |       |                  | Band V(dBm)<br>(REC Off) |       |       |                  | Band V(dBm)<br>(REC Off+Wi-Fi/BT) |       |       |                  |
| Tx Channel     |          | 4132                                        | 4183  | 4233  | Tune-up<br>Limit | 4132                     | 4183  | 4233  | Tune-up<br>Limit | 4132                              | 4183  | 4233  | Tune-up<br>Limit |
| Frequency(MHz) |          | 826.4                                       | 836.6 | 846.6 |                  | 826.4                    | 836.6 | 846.6 |                  | 826.4                             | 836.6 | 846.6 |                  |
| RMC            | 12.2kbps | 15.96                                       | 16.08 | 16.06 | 17.00            | 23.08                    | 23.12 | 23.07 | 24.00            | 20.04                             | 20.09 | 20.06 | 21.00            |
| AMR            | 12.2kbps | 15.90                                       | 16.02 | 16.00 | 17.00            | 23.02                    | 23.06 | 23.01 | 24.00            | 19.98                             | 20.03 | 20.00 | 21.00            |
| HSDPA          | Sub 1    | 15.39                                       | 15.51 | 15.49 | 16.50            | 22.51                    | 22.55 | 22.50 | 23.50            | 19.47                             | 19.52 | 19.49 | 20.50            |
|                | Sub 2    | 14.91                                       | 15.03 | 15.01 | 16.00            | 22.03                    | 22.07 | 22.02 | 23.00            | 18.99                             | 19.04 | 19.01 | 20.00            |
|                | Sub 3    | 14.40                                       | 14.52 | 14.50 | 15.50            | 21.52                    | 21.56 | 21.51 | 22.50            | 18.48                             | 18.53 | 18.50 | 19.50            |
|                | Sub 4    | 14.39                                       | 14.51 | 14.49 | 15.50            | 21.51                    | 21.55 | 21.50 | 22.50            | 18.47                             | 18.52 | 18.49 | 19.50            |
| HSUPA          | Sub 1    | 14.88                                       | 15.00 | 14.98 | 16.00            | 22.00                    | 22.04 | 21.99 | 23.00            | 18.96                             | 19.01 | 18.98 | 20.00            |
|                | Sub 2    | 13.01                                       | 13.13 | 13.11 | 14.00            | 20.13                    | 20.17 | 20.12 | 21.00            | 17.09                             | 17.14 | 17.11 | 18.00            |
|                | Sub 3    | 12.86                                       | 12.98 | 13.12 | 14.00            | 19.98                    | 20.02 | 20.13 | 21.00            | 16.94                             | 16.99 | 17.12 | 18.00            |
|                | Sub 4    | 11.96                                       | 12.08 | 12.09 | 13.00            | 19.08                    | 19.12 | 19.10 | 20.00            | 16.04                             | 16.09 | 16.09 | 17.00            |
|                | Sub 5    | 14.94                                       | 15.06 | 15.04 | 16.00            | 22.06                    | 22.10 | 22.05 | 23.00            | 19.02                             | 19.07 | 19.04 | 20.00            |
| DC-HSDPA       | Sub 1    | 15.43                                       | 15.51 | 15.49 | 16.50            | 22.55                    | 22.55 | 22.50 | 23.50            | 19.51                             | 19.52 | 19.49 | 20.50            |
|                | Sub 2    | 14.92                                       | 15.00 | 14.98 | 16.00            | 22.04                    | 22.04 | 21.99 | 23.00            | 19.00                             | 19.01 | 18.98 | 20.00            |
|                | Sub 3    | 14.47                                       | 14.55 | 14.53 | 15.50            | 21.59                    | 21.59 | 21.54 | 22.50            | 18.55                             | 18.56 | 18.53 | 19.50            |
|                | Sub 4    | 14.46                                       | 14.64 | 14.51 | 15.50            | 21.58                    | 21.68 | 21.52 | 22.50            | 18.54                             | 18.65 | 18.51 | 19.50            |

Note: 1.Per KDB 941225 D01, SAR for Head / Hotspot / Body-worn exposure is measured using a 12.2 kbps AMR with TPC bits configured to all "1's".

2. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode.

### 9.3 LTE Mode

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3**

| Modulation | Channel bandwidth / Transmission bandwidth (N <sub>RB</sub> ) |         |       |        |        |        | MPR (dB) |
|------------|---------------------------------------------------------------|---------|-------|--------|--------|--------|----------|
|            | 1.4 MHz                                                       | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |          |
| QPSK       | > 5                                                           | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 1      |
| 16 QAM     | ≤ 5                                                           | ≤ 4     | ≤ 8   | ≤ 12   | ≤ 16   | ≤ 18   | ≤ 1      |
| 16 QAM     | > 5                                                           | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 2      |

(Antenna 1)

| LTE FDD Band 2<br>(REC On/Off, Hotspot Off) |            |         |           | Conducted Power(dBm)    |            |              |               |
|---------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                   | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                             |            |         |           | 18607/1850.7            | 18900/1880 | 19193/1909.3 |               |
| 1.4MHz                                      | QPSK       | 1       | 0         | 23.72                   | 23.81      | 23.76        | 24.00         |
|                                             |            | 1       | 2         | 23.56                   | 23.77      | 23.56        | 24.00         |
|                                             |            | 1       | 5         | 23.75                   | 23.70      | 23.70        | 24.00         |
|                                             |            | 3       | 0         | 23.71                   | 23.84      | 23.76        | 24.00         |
|                                             |            | 3       | 2         | 23.62                   | 23.72      | 23.58        | 24.00         |
|                                             |            | 3       | 3         | 23.64                   | 23.71      | 23.69        | 24.00         |
|                                             |            | 6       | 0         | 22.59                   | 22.70      | 22.74        | 23.00         |
|                                             | 16QAM      | 1       | 0         | 22.69                   | 22.82      | 22.73        | 23.00         |
|                                             |            | 1       | 2         | 22.56                   | 22.62      | 22.65        | 23.00         |
|                                             |            | 1       | 5         | 22.77                   | 22.90      | 22.79        | 23.00         |
|                                             |            | 3       | 0         | 22.47                   | 22.60      | 21.55        | 23.00         |
|                                             |            | 3       | 2         | 22.62                   | 22.55      | 22.63        | 23.00         |
|                                             |            | 3       | 3         | 22.51                   | 22.64      | 22.63        | 23.00         |
|                                             |            | 6       | 0         | 21.70                   | 21.68      | 21.71        | 22.00         |
|                                             | 64QAM      | 1       | 0         | 22.40                   | 22.21      | 22.12        | 22.50         |
|                                             |            | 1       | 2         | 22.35                   | 22.06      | 22.01        | 22.50         |
|                                             |            | 1       | 5         | 22.34                   | 22.12      | 22.07        | 22.50         |
|                                             |            | 3       | 0         | 21.69                   | 21.68      | 22.20        | 22.50         |
|                                             |            | 3       | 2         | 21.60                   | 21.62      | 22.32        | 22.50         |
|                                             |            | 3       | 3         | 21.68                   | 21.74      | 22.23        | 22.50         |
|                                             |            | 6       | 0         | 20.67                   | 20.83      | 21.38        | 21.50         |
| Bandwidth                                   | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                             |            |         |           | 18615/1851.5            | 18900/1880 | 19185/1908.5 |               |
| 3MHz                                        | QPSK       | 1       | 0         | 23.74                   | 23.85      | 23.79        | 24.00         |
|                                             |            | 1       | 7         | 23.59                   | 23.82      | 23.60        | 24.00         |
|                                             |            | 1       | 14        | 23.78                   | 23.75      | 23.74        | 24.00         |



|           |            | 8       | 0         | 22.81                   | 22.96      | 22.89        | 23.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 8       | 4         | 22.74                   | 22.82      | 22.70        | 23.00         |
|           |            | 8       | 7         | 22.74                   | 22.82      | 22.79        | 23.00         |
|           |            | 15      | 0         | 22.62                   | 22.74      | 22.77        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.72                   | 22.84      | 22.76        | 23.00         |
|           |            | 1       | 7         | 22.59                   | 22.67      | 22.69        | 23.00         |
|           |            | 1       | 14        | 22.79                   | 22.94      | 22.82        | 23.00         |
|           |            | 8       | 0         | 21.58                   | 21.73      | 20.67        | 22.00         |
|           |            | 8       | 4         | 21.73                   | 21.68      | 21.75        | 22.00         |
|           |            | 8       | 7         | 21.61                   | 21.76      | 21.76        | 22.00         |
|           |            | 15      | 0         | 21.73                   | 21.72      | 21.74        | 22.00         |
|           | 64QAM      | 1       | 0         | 22.43                   | 22.23      | 22.15        | 22.50         |
|           |            | 1       | 7         | 22.38                   | 22.11      | 22.05        | 22.50         |
|           |            | 1       | 14        | 22.36                   | 22.16      | 22.10        | 22.50         |
|           |            | 8       | 0         | 20.80                   | 20.81      | 21.32        | 21.50         |
|           |            | 8       | 4         | 20.71                   | 20.75      | 21.44        | 21.50         |
|           |            | 8       | 7         | 20.78                   | 20.86      | 21.36        | 21.50         |
|           |            | 15      | 0         | 20.70                   | 20.87      | 21.41        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18625/1852.5            | 18900/1880 | 19175/1907.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 23.71                   | 23.83      | 23.75        | 24.00         |
|           |            | 1       | 13        | 23.57                   | 23.78      | 23.57        | 24.00         |
|           |            | 1       | 24        | 23.75                   | 23.70      | 23.70        | 24.00         |
|           |            | 12      | 0         | 22.78                   | 22.91      | 22.85        | 23.00         |
|           |            | 12      | 6         | 22.72                   | 22.78      | 22.65        | 23.00         |
|           |            | 12      | 13        | 22.72                   | 22.80      | 22.75        | 23.00         |
|           |            | 25      | 0         | 22.60                   | 22.73      | 22.75        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.69                   | 22.80      | 22.73        | 23.00         |
|           |            | 1       | 13        | 22.56                   | 22.65      | 22.66        | 23.00         |
|           |            | 1       | 24        | 22.76                   | 22.92      | 22.78        | 23.00         |
|           |            | 12      | 0         | 21.56                   | 21.69      | 20.64        | 22.00         |
|           |            | 12      | 6         | 21.70                   | 21.63      | 21.71        | 22.00         |
|           |            | 12      | 13        | 21.58                   | 21.71      | 21.72        | 22.00         |
|           |            | 25      | 0         | 21.71                   | 21.68      | 21.69        | 22.00         |
|           | 64QAM      | 1       | 0         | 22.40                   | 22.19      | 22.12        | 22.50         |
|           |            | 1       | 13        | 22.35                   | 22.09      | 22.02        | 22.50         |
|           |            | 1       | 24        | 22.33                   | 22.14      | 22.06        | 22.50         |
|           |            | 12      | 0         | 20.78                   | 20.77      | 21.29        | 21.50         |
|           |            | 12      | 6         | 20.68                   | 20.70      | 21.40        | 21.50         |
|           |            | 12      | 13        | 20.75                   | 20.81      | 21.32        | 21.50         |
|           |            | 25      | 0         | 20.68                   | 20.83      | 21.36        | 21.50         |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            |         |           | 18650/1855              | 18900/1880 | 19150/1905   |               |
| 10MHz     | QPSK       | 1       | 0         | 23.73                   | 23.84      | 23.78        | 24.00         |
|           |            | 1       | 25        | 23.60                   | 23.83      | 23.61        | 24.00         |
|           |            | 1       | 49        | 23.77                   | 23.74      | 23.73        | 24.00         |
|           |            | 25      | 0         | 22.81                   | 22.96      | 22.89        | 23.00         |
|           |            | 25      | 13        | 22.75                   | 22.83      | 22.69        | 23.00         |
|           |            | 25      | 25        | 22.74                   | 22.84      | 22.80        | 23.00         |
|           |            | 50      | 0         | 22.68                   | 22.75      | 22.79        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.71                   | 22.83      | 22.75        | 23.00         |
|           |            | 1       | 25        | 22.59                   | 22.69      | 22.69        | 23.00         |
|           |            | 1       | 49        | 22.79                   | 22.94      | 22.81        | 23.00         |
|           |            | 25      | 0         | 21.59                   | 21.74      | 20.68        | 22.00         |
|           |            | 25      | 13        | 21.72                   | 21.67      | 21.74        | 22.00         |
|           |            | 25      | 25        | 21.61                   | 21.76      | 21.76        | 22.00         |
|           |            | 50      | 0         | 21.74                   | 21.73      | 21.73        | 22.00         |
|           | 64QAM      | 1       | 0         | 22.42                   | 22.22      | 22.14        | 22.50         |
|           |            | 1       | 25        | 22.38                   | 22.13      | 22.05        | 22.50         |
|           |            | 1       | 49        | 22.36                   | 22.16      | 22.09        | 22.50         |
|           |            | 25      | 0         | 20.81                   | 20.82      | 21.33        | 21.50         |
|           |            | 25      | 13        | 20.70                   | 20.74      | 21.43        | 21.50         |
|           |            | 25      | 25        | 20.78                   | 20.86      | 21.36        | 21.50         |
|           |            | 50      | 0         | 20.71                   | 20.88      | 21.40        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18675/1857.5            | 18900/1880 | 19125/1902.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 23.72                   | 23.80      | 23.76        | 24.00         |
|           |            | 1       | 38        | 23.58                   | 23.82      | 23.58        | 24.00         |
|           |            | 1       | 74        | 23.74                   | 23.69      | 23.69        | 24.00         |
|           |            | 36      | 0         | 22.79                   | 22.92      | 22.86        | 23.00         |
|           |            | 36      | 18        | 22.72                   | 22.78      | 22.65        | 23.00         |
|           |            | 36      | 39        | 22.71                   | 22.81      | 22.76        | 23.00         |
|           |            | 75      | 0         | 22.66                   | 22.71      | 22.74        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.66                   | 22.81      | 22.73        | 23.00         |
|           |            | 1       | 38        | 22.57                   | 22.66      | 22.67        | 23.00         |
|           |            | 1       | 74        | 22.76                   | 22.90      | 22.78        | 23.00         |
|           |            | 36      | 0         | 21.56                   | 21.72      | 20.65        | 22.00         |
|           |            | 36      | 18        | 21.69                   | 21.62      | 21.70        | 22.00         |
|           |            | 36      | 39        | 21.59                   | 21.72      | 21.73        | 22.00         |
|           |            | 75      | 0         | 21.71                   | 21.68      | 21.69        | 22.00         |
|           | 64QAM      | 1       | 0         | 22.37                   | 22.20      | 22.12        | 22.50         |
|           |            | 1       | 38        | 22.36                   | 22.10      | 22.03        | 22.50         |
|           |            | 1       | 74        | 22.33                   | 22.12      | 22.06        | 22.50         |
|           |            | 36      | 0         | 20.78                   | 20.80      | 21.30        | 21.50         |





|           |            | 36      | 18        | 20.67                   | 20.69      | 21.39      | 21.50         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 36      | 39        | 20.76                   | 20.82      | 21.33      | 21.50         |
|           |            | 75      | 0         | 20.68                   | 20.83      | 21.36      | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 18700/1860              | 18900/1880 | 19100/1900 |               |
| 20MHz     | QPSK       | 1       | 0         | 23.69                   | 23.76      | 23.73      | 24.00         |
|           |            | 1       | 50        | 23.57                   | 23.78      | 23.56      | 24.00         |
|           |            | 1       | 99        | 23.72                   | 23.68      | 23.66      | 24.00         |
|           |            | 50      | 0         | 22.76                   | 22.87      | 22.82      | 23.00         |
|           |            | 50      | 25        | 22.70                   | 22.74      | 22.62      | 23.00         |
|           |            | 50      | 50        | 22.68                   | 22.76      | 22.72      | 23.00         |
|           |            | 100     | 0         | 22.63                   | 22.66      | 22.70      | 23.00         |
|           | 16QAM      | 1       | 0         | 22.64                   | 22.77      | 22.68      | 23.00         |
|           |            | 1       | 50        | 22.53                   | 22.64      | 22.63      | 23.00         |
|           |            | 1       | 99        | 22.74                   | 22.87      | 22.76      | 23.00         |
|           |            | 50      | 0         | 21.53                   | 21.68      | 20.62      | 22.00         |
|           |            | 50      | 25        | 21.66                   | 21.60      | 21.67      | 22.00         |
|           |            | 50      | 50        | 21.56                   | 21.67      | 21.69      | 22.00         |
|           |            | 100     | 0         | 21.69                   | 21.64      | 21.66      | 22.00         |
|           | 64QAM      | 1       | 0         | 22.35                   | 22.16      | 22.07      | 22.50         |
|           |            | 1       | 50        | 22.32                   | 22.08      | 21.99      | 22.50         |
|           |            | 1       | 99        | 22.31                   | 22.09      | 22.04      | 22.50         |
|           |            | 50      | 0         | 20.75                   | 20.76      | 21.27      | 21.50         |
|           |            | 50      | 25        | 20.64                   | 20.67      | 21.36      | 21.50         |
|           |            | 50      | 50        | 20.73                   | 20.77      | 21.29      | 21.50         |
|           |            | 100     | 0         | 20.66                   | 20.79      | 21.33      | 21.50         |

| LTE FDD Band 2<br>(REC On/Off, Hotspot On) |            |         |           | Conducted Power(dBm)    |            |              |               |
|--------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                  | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                            |            |         |           | 18607/1850.7            | 18900/1880 | 19193/1909.3 |               |
| 1.4MHz                                     | QPSK       | 1       | 0         | 18.85                   | 18.81      | 18.81        | 19.00         |
|                                            |            | 1       | 2         | 18.59                   | 18.87      | 18.69        | 19.00         |
|                                            |            | 1       | 5         | 18.70                   | 18.62      | 18.72        | 19.00         |
|                                            |            | 3       | 0         | 18.72                   | 18.86      | 18.77        | 19.00         |
|                                            |            | 3       | 2         | 18.71                   | 18.80      | 18.80        | 19.00         |
|                                            |            | 3       | 3         | 18.79                   | 18.78      | 18.74        | 19.00         |
|                                            |            | 6       | 0         | 18.69                   | 18.77      | 18.70        | 19.00         |
|                                            | 16QAM      | 1       | 0         | 18.72                   | 18.80      | 18.72        | 19.00         |
|                                            |            | 1       | 2         | 18.76                   | 18.82      | 18.61        | 19.00         |
|                                            |            | 1       | 5         | 18.79                   | 18.72      | 18.62        | 19.00         |
|                                            |            | 3       | 0         | 18.77                   | 18.67      | 18.77        | 19.00         |
|                                            |            | 3       | 2         | 18.65                   | 18.77      | 18.73        | 19.00         |



|           |            | 3       | 3         | 18.67                   | 18.78      | 18.75        | 19.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 6       | 0         | 18.73                   | 18.77      | 18.72        | 19.00         |
|           | 64QAM      | 1       | 0         | 18.89                   | 18.72      | 18.78        | 19.00         |
|           |            | 1       | 2         | 18.59                   | 18.57      | 18.67        | 19.00         |
|           |            | 1       | 5         | 18.74                   | 18.66      | 18.64        | 19.00         |
|           |            | 3       | 0         | 18.72                   | 18.68      | 18.63        | 19.00         |
|           |            | 3       | 2         | 18.66                   | 18.72      | 18.74        | 19.00         |
|           |            | 3       | 3         | 18.66                   | 18.69      | 18.69        | 19.00         |
|           |            | 6       | 0         | 18.65                   | 18.75      | 18.75        | 19.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18615/1851.5            | 18900/1880 | 19185/1908.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 18.82                   | 18.77      | 18.78        | 19.00         |
|           |            | 1       | 7         | 18.58                   | 18.83      | 18.67        | 19.00         |
|           |            | 1       | 14        | 18.68                   | 18.61      | 18.69        | 19.00         |
|           |            | 8       | 0         | 18.69                   | 18.81      | 18.73        | 19.00         |
|           |            | 8       | 4         | 18.69                   | 18.76      | 18.77        | 19.00         |
|           |            | 8       | 7         | 18.76                   | 18.73      | 18.70        | 19.00         |
|           |            | 15      | 0         | 18.66                   | 18.72      | 18.66        | 19.00         |
|           | 16QAM      | 1       | 0         | 18.70                   | 18.76      | 18.67        | 19.00         |
|           |            | 1       | 7         | 18.72                   | 18.80      | 18.57        | 19.00         |
|           |            | 1       | 14        | 18.77                   | 18.69      | 18.60        | 19.00         |
|           |            | 8       | 0         | 18.74                   | 18.63      | 18.74        | 19.00         |
|           |            | 8       | 4         | 18.62                   | 18.75      | 18.70        | 19.00         |
|           |            | 8       | 7         | 18.64                   | 18.73      | 18.71        | 19.00         |
|           |            | 15      | 0         | 18.71                   | 18.73      | 18.69        | 19.00         |
|           | 64QAM      | 1       | 0         | 18.87                   | 18.68      | 18.73        | 19.00         |
|           |            | 1       | 7         | 18.55                   | 18.55      | 18.63        | 19.00         |
|           |            | 1       | 14        | 18.72                   | 18.63      | 18.62        | 19.00         |
|           |            | 8       | 0         | 18.69                   | 18.64      | 18.60        | 19.00         |
|           |            | 8       | 4         | 18.63                   | 18.70      | 18.71        | 19.00         |
|           |            | 8       | 7         | 18.63                   | 18.64      | 18.65        | 19.00         |
|           |            | 15      | 0         | 18.63                   | 18.71      | 18.72        | 19.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18625/1852.5            | 18900/1880 | 19175/1907.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 18.79                   | 18.75      | 18.74        | 19.00         |
|           |            | 1       | 13        | 18.56                   | 18.79      | 18.64        | 19.00         |
|           |            | 1       | 24        | 18.65                   | 18.56      | 18.65        | 19.00         |
|           |            | 12      | 0         | 18.66                   | 18.76      | 18.69        | 19.00         |
|           |            | 12      | 6         | 18.67                   | 18.72      | 18.72        | 19.00         |
|           |            | 12      | 13        | 18.74                   | 18.71      | 18.66        | 19.00         |
|           |            | 25      | 0         | 18.64                   | 18.71      | 18.64        | 19.00         |
|           | 16QAM      | 1       | 0         | 18.67                   | 18.72      | 18.64        | 19.00         |
|           |            | 1       | 13        | 18.69                   | 18.78      | 18.54        | 19.00         |



|           |            | 1       | 24        | 18.74                   | 18.67      | 18.56        | 19.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 12      | 0         | 18.72                   | 18.59      | 18.71        | 19.00         |
|           |            | 12      | 6         | 18.59                   | 18.70      | 18.66        | 19.00         |
|           |            | 12      | 13        | 18.61                   | 18.68      | 18.67        | 19.00         |
|           |            | 25      | 0         | 18.69                   | 18.69      | 18.64        | 19.00         |
|           | 64QAM      | 1       | 0         | 18.84                   | 18.64      | 18.70        | 19.00         |
|           |            | 1       | 13        | 18.52                   | 18.53      | 18.60        | 19.00         |
|           |            | 1       | 24        | 18.69                   | 18.61      | 18.58        | 19.00         |
|           |            | 12      | 0         | 18.67                   | 18.60      | 18.57        | 19.00         |
|           |            | 12      | 6         | 18.60                   | 18.65      | 18.67        | 19.00         |
|           |            | 12      | 13        | 18.60                   | 18.59      | 18.61        | 19.00         |
|           |            | 25      | 0         | 18.61                   | 18.67      | 18.67        | 19.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18650/1855              | 18900/1880 | 19150/1905   |               |
| 10MHz     | QPSK       | 1       | 0         | 18.81                   | 18.76      | 18.77        | 19.00         |
|           |            | 1       | 25        | 18.59                   | 18.84      | 18.68        | 19.00         |
|           |            | 1       | 49        | 18.67                   | 18.60      | 18.68        | 19.00         |
|           |            | 25      | 0         | 18.69                   | 18.81      | 18.73        | 19.00         |
|           |            | 25      | 13        | 18.70                   | 18.77      | 18.76        | 19.00         |
|           |            | 25      | 25        | 18.76                   | 18.75      | 18.71        | 19.00         |
|           |            | 50      | 0         | 18.72                   | 18.73      | 18.68        | 19.00         |
|           | 16QAM      | 1       | 0         | 18.69                   | 18.75      | 18.66        | 19.00         |
|           |            | 1       | 25        | 18.72                   | 18.82      | 18.57        | 19.00         |
|           |            | 1       | 49        | 18.77                   | 18.69      | 18.59        | 19.00         |
|           |            | 25      | 0         | 18.75                   | 18.64      | 18.75        | 19.00         |
|           |            | 25      | 13        | 18.61                   | 18.74      | 18.69        | 19.00         |
|           |            | 25      | 25        | 18.64                   | 18.73      | 18.71        | 19.00         |
|           |            | 50      | 0         | 18.72                   | 18.74      | 18.68        | 19.00         |
|           | 64QAM      | 1       | 0         | 18.86                   | 18.67      | 18.72        | 19.00         |
|           |            | 1       | 25        | 18.55                   | 18.57      | 18.63        | 19.00         |
|           |            | 1       | 49        | 18.72                   | 18.63      | 18.61        | 19.00         |
|           |            | 25      | 0         | 18.70                   | 18.65      | 18.61        | 19.00         |
|           |            | 25      | 13        | 18.62                   | 18.69      | 18.70        | 19.00         |
|           |            | 25      | 25        | 18.63                   | 18.64      | 18.65        | 19.00         |
|           |            | 50      | 0         | 18.64                   | 18.72      | 18.71        | 19.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18675/1857.5            | 18900/1880 | 19125/1902.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 18.80                   | 18.72      | 18.75        | 19.00         |
|           |            | 1       | 38        | 18.57                   | 18.83      | 18.65        | 19.00         |
|           |            | 1       | 74        | 18.64                   | 18.55      | 18.64        | 19.00         |
|           |            | 36      | 0         | 18.67                   | 18.77      | 18.70        | 19.00         |
|           |            | 36      | 18        | 18.67                   | 18.72      | 18.72        | 19.00         |
|           |            | 36      | 39        | 18.73                   | 18.72      | 18.67        | 19.00         |



|           | 16QAM      | 75      | 0         | 18.70                   | 18.69      | 18.63      | 19.00         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 1       | 0         | 18.64                   | 18.73      | 18.64      | 19.00         |
|           |            | 1       | 38        | 18.70                   | 18.79      | 18.55      | 19.00         |
|           |            | 1       | 74        | 18.74                   | 18.65      | 18.56      | 19.00         |
|           |            | 36      | 0         | 18.72                   | 18.62      | 18.72      | 19.00         |
|           |            | 36      | 18        | 18.58                   | 18.69      | 18.65      | 19.00         |
|           |            | 36      | 39        | 18.62                   | 18.69      | 18.68      | 19.00         |
|           |            | 75      | 0         | 18.69                   | 18.69      | 18.64      | 19.00         |
|           | 64QAM      | 1       | 0         | 18.81                   | 18.65      | 18.70      | 19.00         |
|           |            | 1       | 38        | 18.53                   | 18.54      | 18.61      | 19.00         |
|           |            | 1       | 74        | 18.69                   | 18.59      | 18.58      | 19.00         |
|           |            | 36      | 0         | 18.67                   | 18.63      | 18.58      | 19.00         |
|           |            | 36      | 18        | 18.59                   | 18.64      | 18.66      | 19.00         |
|           |            | 36      | 39        | 18.61                   | 18.60      | 18.62      | 19.00         |
|           |            | 75      | 0         | 18.61                   | 18.67      | 18.67      | 19.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 18700/1860              | 18900/1880 | 19100/1900 |               |
| 20MHz     | QPSK       | 1       | 0         | 18.77                   | 18.68      | 18.72      | 19.00         |
|           |            | 1       | 50        | 18.56                   | 18.79      | 18.63      | 19.00         |
|           |            | 1       | 99        | 18.62                   | 18.54      | 18.61      | 19.00         |
|           |            | 50      | 0         | 18.64                   | 18.72      | 18.66      | 19.00         |
|           |            | 50      | 25        | 18.65                   | 18.68      | 18.69      | 19.00         |
|           |            | 50      | 50        | 18.70                   | 18.67      | 18.63      | 19.00         |
|           |            | 100     | 0         | 18.67                   | 18.64      | 18.59      | 19.00         |
|           | 16QAM      | 1       | 0         | 18.62                   | 18.69      | 18.59      | 19.00         |
|           |            | 1       | 50        | 18.66                   | 18.77      | 18.51      | 19.00         |
|           |            | 1       | 99        | 18.72                   | 18.62      | 18.54      | 19.00         |
|           |            | 50      | 0         | 18.69                   | 18.58      | 18.69      | 19.00         |
|           |            | 50      | 25        | 18.55                   | 18.67      | 18.62      | 19.00         |
|           |            | 50      | 50        | 18.59                   | 18.64      | 18.64      | 19.00         |
|           |            | 100     | 0         | 18.67                   | 18.65      | 18.61      | 19.00         |
|           | 64QAM      | 1       | 0         | 18.79                   | 18.61      | 18.65      | 19.00         |
|           |            | 1       | 50        | 18.49                   | 18.52      | 18.57      | 19.00         |
|           |            | 1       | 99        | 18.67                   | 18.56      | 18.56      | 19.00         |
|           |            | 50      | 0         | 18.64                   | 18.59      | 18.55      | 19.00         |
|           |            | 50      | 25        | 18.56                   | 18.62      | 18.63      | 19.00         |
|           |            | 50      | 50        | 18.58                   | 18.55      | 18.58      | 19.00         |
|           |            | 100     | 0         | 18.59                   | 18.63      | 18.64      | 19.00         |



| LTE FDD Band 2<br>(Hotspot Off+Sensor On) |            |         |           | Conducted Power(dBm)    |            |              |               |
|-------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                 | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                           |            |         |           | 18607/1850.7            | 18900/1880 | 19193/1909.3 |               |
| 1.4MHz                                    | QPSK       | 1       | 0         | 22.60                   | 22.61      | 22.55        | 23.00         |
|                                           |            | 1       | 2         | 22.41                   | 22.59      | 22.47        | 23.00         |
|                                           |            | 1       | 5         | 22.59                   | 22.51      | 22.48        | 23.00         |
|                                           |            | 3       | 0         | 22.58                   | 22.75      | 22.59        | 23.00         |
|                                           |            | 3       | 2         | 22.54                   | 22.64      | 22.58        | 23.00         |
|                                           |            | 3       | 3         | 22.57                   | 22.57      | 22.65        | 23.00         |
|                                           |            | 6       | 0         | 22.54                   | 22.59      | 22.61        | 23.00         |
|                                           | 16QAM      | 1       | 0         | 22.47                   | 22.51      | 22.52        | 23.00         |
|                                           |            | 1       | 2         | 22.29                   | 22.56      | 22.53        | 23.00         |
|                                           |            | 1       | 5         | 22.42                   | 22.47      | 22.49        | 23.00         |
|                                           |            | 3       | 0         | 22.48                   | 22.46      | 22.62        | 23.00         |
|                                           |            | 3       | 2         | 22.47                   | 22.43      | 22.55        | 23.00         |
|                                           |            | 3       | 3         | 22.43                   | 22.52      | 22.48        | 23.00         |
|                                           |            | 6       | 0         | 21.36                   | 21.59      | 21.58        | 22.00         |
|                                           | 64QAM      | 1       | 0         | 22.11                   | 22.18      | 22.13        | 22.50         |
|                                           |            | 1       | 2         | 22.24                   | 22.04      | 22.28        | 22.50         |
|                                           |            | 1       | 5         | 22.12                   | 22.10      | 22.21        | 22.50         |
|                                           |            | 3       | 0         | 22.17                   | 22.13      | 22.12        | 22.50         |
|                                           |            | 3       | 2         | 22.12                   | 22.08      | 22.14        | 22.50         |
|                                           |            | 3       | 3         | 22.09                   | 22.14      | 22.18        | 22.50         |
|                                           |            | 6       | 0         | 21.21                   | 21.28      | 21.28        | 21.50         |
| Bandwidth                                 | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                           |            |         |           | 18615/1851.5            | 18900/1880 | 19185/1908.5 |               |
| 3MHz                                      | QPSK       | 1       | 0         | 22.62                   | 22.65      | 22.58        | 23.00         |
|                                           |            | 1       | 7         | 22.44                   | 22.64      | 22.51        | 23.00         |
|                                           |            | 1       | 14        | 22.62                   | 22.56      | 22.52        | 23.00         |
|                                           |            | 8       | 0         | 22.58                   | 22.77      | 22.62        | 23.00         |
|                                           |            | 8       | 4         | 22.56                   | 22.64      | 22.60        | 23.00         |
|                                           |            | 8       | 7         | 22.57                   | 22.58      | 22.65        | 23.00         |
|                                           |            | 15      | 0         | 22.57                   | 22.63      | 22.64        | 23.00         |
|                                           | 16QAM      | 1       | 0         | 22.50                   | 22.53      | 22.55        | 23.00         |
|                                           |            | 1       | 7         | 22.32                   | 22.61      | 22.57        | 23.00         |
|                                           |            | 1       | 14        | 22.44                   | 22.51      | 22.52        | 23.00         |
|                                           |            | 8       | 0         | 21.59                   | 21.59      | 21.74        | 22.00         |
|                                           |            | 8       | 4         | 21.58                   | 21.56      | 21.67        | 22.00         |
|                                           |            | 8       | 7         | 21.53                   | 21.64      | 21.61        | 22.00         |
|                                           |            | 15      | 0         | 21.39                   | 21.63      | 21.61        | 22.00         |
|                                           | 64QAM      | 1       | 0         | 22.14                   | 22.20      | 22.16        | 22.50         |
|                                           |            | 1       | 7         | 22.17                   | 21.99      | 22.22        | 22.50         |



|           |            | 1       | 14        | 22.04                   | 22.04      | 22.24        | 22.50         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 8       | 0         | 21.18                   | 21.16      | 21.14        | 21.50         |
|           |            | 8       | 4         | 21.13                   | 21.11      | 21.16        | 21.50         |
|           |            | 8       | 7         | 21.09                   | 21.16      | 21.21        | 21.50         |
|           |            | 15      | 0         | 21.14                   | 21.22      | 21.21        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18625/1852.5            | 18900/1880 | 19175/1907.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 22.59                   | 22.63      | 22.54        | 23.00         |
|           |            | 1       | 13        | 22.42                   | 22.60      | 22.48        | 23.00         |
|           |            | 1       | 24        | 22.59                   | 22.51      | 22.48        | 23.00         |
|           |            | 12      | 0         | 22.55                   | 22.72      | 22.58        | 23.00         |
|           |            | 12      | 6         | 22.54                   | 22.60      | 22.55        | 23.00         |
|           |            | 12      | 13        | 22.55                   | 22.56      | 22.61        | 23.00         |
|           |            | 25      | 0         | 22.55                   | 22.62      | 22.62        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.47                   | 22.49      | 22.52        | 23.00         |
|           |            | 1       | 13        | 22.29                   | 22.59      | 22.54        | 23.00         |
|           |            | 1       | 24        | 22.41                   | 22.49      | 22.48        | 23.00         |
|           |            | 12      | 0         | 21.57                   | 21.55      | 21.71        | 22.00         |
|           |            | 12      | 6         | 21.55                   | 21.51      | 21.63        | 22.00         |
|           |            | 12      | 13        | 21.50                   | 21.59      | 21.57        | 22.00         |
|           |            | 25      | 0         | 21.37                   | 21.59      | 21.56        | 22.00         |
|           | 64QAM      | 1       | 0         | 22.11                   | 22.16      | 22.13        | 22.50         |
|           |            | 1       | 13        | 22.24                   | 22.07      | 22.29        | 22.50         |
|           |            | 1       | 24        | 22.11                   | 22.12      | 22.30        | 22.50         |
|           |            | 12      | 0         | 21.26                   | 21.22      | 21.21        | 21.50         |
|           |            | 12      | 6         | 21.20                   | 21.16      | 21.22        | 21.50         |
|           |            | 12      | 13        | 21.16                   | 21.21      | 21.27        | 21.50         |
|           |            | 25      | 0         | 21.22                   | 21.28      | 21.26        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18650/1855              | 18900/1880 | 19150/1905   |               |
| 10MHz     | QPSK       | 1       | 0         | 22.61                   | 22.64      | 22.57        | 23.00         |
|           |            | 1       | 25        | 22.45                   | 22.65      | 22.52        | 23.00         |
|           |            | 1       | 49        | 22.61                   | 22.55      | 22.51        | 23.00         |
|           |            | 25      | 0         | 22.58                   | 22.77      | 22.62        | 23.00         |
|           |            | 25      | 13        | 22.57                   | 22.65      | 22.59        | 23.00         |
|           |            | 25      | 25        | 22.57                   | 22.60      | 22.66        | 23.00         |
|           |            | 50      | 0         | 22.63                   | 22.64      | 22.66        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.49                   | 22.52      | 22.54        | 23.00         |
|           |            | 1       | 25        | 22.32                   | 22.63      | 22.57        | 23.00         |
|           |            | 1       | 49        | 22.44                   | 22.51      | 22.51        | 23.00         |
|           |            | 25      | 0         | 21.60                   | 21.60      | 21.75        | 22.00         |
|           |            | 25      | 13        | 21.57                   | 21.55      | 21.66        | 22.00         |
|           |            | 25      | 25        | 21.53                   | 21.64      | 21.61        | 22.00         |



|           | 64QAM      | 50      | 0         | 21.40                   | 21.64      | 21.60        | 22.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 1       | 0         | 22.13                   | 22.19      | 22.15        | 22.50         |
|           |            | 1       | 25        | 22.17                   | 22.01      | 22.22        | 22.50         |
|           |            | 1       | 49        | 22.04                   | 22.04      | 22.23        | 22.50         |
|           |            | 25      | 0         | 21.19                   | 21.17      | 21.15        | 21.50         |
|           |            | 25      | 13        | 21.12                   | 21.10      | 21.15        | 21.50         |
|           |            | 25      | 25        | 21.09                   | 21.16      | 21.21        | 21.50         |
|           |            | 50      | 0         | 21.15                   | 21.23      | 21.20        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18675/1857.5            | 18900/1880 | 19125/1902.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 22.60                   | 22.60      | 22.55        | 23.00         |
|           |            | 1       | 38        | 22.43                   | 22.64      | 22.49        | 23.00         |
|           |            | 1       | 74        | 22.58                   | 22.50      | 22.47        | 23.00         |
|           |            | 36      | 0         | 22.56                   | 22.73      | 22.59        | 23.00         |
|           |            | 36      | 18        | 22.54                   | 22.60      | 22.55        | 23.00         |
|           |            | 36      | 39        | 22.54                   | 22.57      | 22.62        | 23.00         |
|           |            | 75      | 0         | 22.61                   | 22.60      | 22.61        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.44                   | 22.50      | 22.52        | 23.00         |
|           |            | 1       | 38        | 22.30                   | 22.60      | 22.55        | 23.00         |
|           |            | 1       | 74        | 22.41                   | 22.47      | 22.48        | 23.00         |
|           |            | 36      | 0         | 21.57                   | 21.58      | 21.72        | 22.00         |
|           |            | 36      | 18        | 21.54                   | 21.50      | 21.62        | 22.00         |
|           |            | 36      | 39        | 21.51                   | 21.60      | 21.58        | 22.00         |
|           |            | 75      | 0         | 21.37                   | 21.59      | 21.56        | 22.00         |
|           | 64QAM      | 1       | 0         | 22.08                   | 22.17      | 22.13        | 22.50         |
|           |            | 1       | 38        | 22.25                   | 22.08      | 22.30        | 22.50         |
|           |            | 1       | 74        | 22.11                   | 22.10      | 22.30        | 22.50         |
|           |            | 36      | 0         | 21.26                   | 21.25      | 21.22        | 21.50         |
|           |            | 36      | 18        | 21.19                   | 21.15      | 21.21        | 21.50         |
|           |            | 36      | 39        | 21.17                   | 21.22      | 21.28        | 21.50         |
|           |            | 75      | 0         | 21.22                   | 21.28      | 21.26        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18700/1860              | 18900/1880 | 19100/1900   |               |
| 20MHz     | QPSK       | 1       | 0         | 22.57                   | 22.56      | 22.52        | 23.00         |
|           |            | 1       | 50        | 22.42                   | 22.60      | 22.47        | 23.00         |
|           |            | 1       | 99        | 22.56                   | 22.49      | 22.44        | 23.00         |
|           |            | 50      | 0         | 22.53                   | 22.68      | 22.55        | 23.00         |
|           |            | 50      | 25        | 22.52                   | 22.56      | 22.52        | 23.00         |
|           |            | 50      | 50        | 22.51                   | 22.52      | 22.58        | 23.00         |
|           |            | 100     | 0         | 22.58                   | 22.55      | 22.57        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.42                   | 22.46      | 22.47        | 23.00         |
|           |            | 1       | 50        | 22.26                   | 22.58      | 22.51        | 23.00         |
|           |            | 1       | 99        | 22.39                   | 22.44      | 22.46        | 23.00         |





|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  |       | 50  | 0  | 21.54 | 21.54 | 21.69 | 22.00 |
|  |       | 50  | 25 | 21.51 | 21.48 | 21.59 | 22.00 |
|  |       | 50  | 50 | 21.48 | 21.55 | 21.54 | 22.00 |
|  |       | 100 | 0  | 21.35 | 21.55 | 21.53 | 22.00 |
|  | 64QAM | 1   | 0  | 22.06 | 22.13 | 22.08 | 22.50 |
|  |       | 1   | 50 | 22.21 | 22.06 | 22.26 | 22.50 |
|  |       | 1   | 99 | 22.09 | 22.07 | 22.28 | 22.50 |
|  |       | 50  | 0  | 21.23 | 21.21 | 21.19 | 21.50 |
|  |       | 50  | 25 | 21.16 | 21.13 | 21.18 | 21.50 |
|  |       | 50  | 50 | 21.14 | 21.17 | 21.24 | 21.50 |
|  |       | 100 | 0  | 21.20 | 21.24 | 21.23 | 21.50 |

| LTE FDD Band 4<br>(REC On/Off, Hotspot Off) |            |         |           | Conducted Power(dBm)    |              |              |               |
|---------------------------------------------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
| Bandwidth                                   | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|                                             |            |         |           | 19957/1710.7            | 20175/1732.5 | 20393/1754.3 |               |
| 1.4MHz                                      | QPSK       | 1       | 0         | 23.66                   | 23.63        | 23.57        | 24.00         |
|                                             |            | 1       | 2         | 23.53                   | 23.42        | 23.43        | 24.00         |
|                                             |            | 1       | 5         | 23.31                   | 23.28        | 23.44        | 24.00         |
|                                             |            | 3       | 0         | 23.44                   | 23.44        | 23.35        | 24.00         |
|                                             |            | 3       | 2         | 23.32                   | 23.35        | 23.39        | 24.00         |
|                                             |            | 3       | 3         | 23.33                   | 23.30        | 23.50        | 24.00         |
|                                             |            | 6       | 0         | 22.49                   | 22.41        | 22.45        | 23.00         |
|                                             | 16QAM      | 1       | 0         | 22.77                   | 22.66        | 22.84        | 23.00         |
|                                             |            | 1       | 2         | 22.58                   | 22.36        | 22.59        | 23.00         |
|                                             |            | 1       | 5         | 22.58                   | 22.40        | 22.54        | 23.00         |
|                                             |            | 3       | 0         | 22.45                   | 22.29        | 22.14        | 23.00         |
|                                             |            | 3       | 2         | 22.38                   | 22.29        | 22.05        | 23.00         |
|                                             |            | 3       | 3         | 22.30                   | 22.26        | 21.96        | 23.00         |
|                                             |            | 6       | 0         | 21.19                   | 21.24        | 20.96        | 22.00         |
|                                             | 64QAM      | 1       | 0         | 22.02                   | 22.18        | 22.09        | 22.50         |
|                                             |            | 1       | 2         | 21.94                   | 22.27        | 21.99        | 22.50         |
|                                             |            | 1       | 5         | 21.96                   | 21.91        | 21.86        | 22.50         |
|                                             |            | 3       | 0         | 21.61                   | 21.49        | 21.52        | 22.50         |
|                                             |            | 3       | 2         | 21.43                   | 21.42        | 21.43        | 22.50         |
|                                             |            | 3       | 3         | 21.46                   | 21.35        | 21.39        | 22.50         |
|                                             |            | 6       | 0         | 20.58                   | 20.60        | 20.56        | 21.00         |
| Bandwidth                                   | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|                                             |            |         |           | 19965/1711.5            | 20175/1732.5 | 20385/1753.5 |               |
| 3MHz                                        | QPSK       | 1       | 0         | 23.68                   | 23.67        | 23.60        | 24.00         |
|                                             |            | 1       | 7         | 23.56                   | 23.47        | 23.47        | 24.00         |
|                                             |            | 1       | 14        | 23.34                   | 23.33        | 23.48        | 24.00         |
|                                             |            | 8       | 0         | 22.54                   | 22.56        | 22.48        | 23.00         |



|           |            | 8       | 4         | 22.44                   | 22.45        | 22.51        | 23.00         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 8       | 7         | 22.43                   | 22.41        | 22.60        | 23.00         |
|           |            | 15      | 0         | 22.52                   | 22.45        | 22.48        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.80                   | 22.68        | 22.87        | 23.00         |
|           |            | 1       | 7         | 22.61                   | 22.41        | 22.63        | 23.00         |
|           |            | 1       | 14        | 22.60                   | 22.44        | 22.57        | 23.00         |
|           |            | 8       | 0         | 21.56                   | 21.42        | 21.26        | 22.00         |
|           |            | 8       | 4         | 21.49                   | 21.42        | 21.17        | 22.00         |
|           |            | 8       | 7         | 21.40                   | 21.38        | 21.09        | 22.00         |
|           |            | 15      | 0         | 21.22                   | 21.28        | 20.99        | 22.00         |
|           | 64QAM      | 1       | 0         | 22.05                   | 22.20        | 22.12        | 22.50         |
|           |            | 1       | 7         | 21.97                   | 22.32        | 22.03        | 22.50         |
|           |            | 1       | 14        | 21.98                   | 21.95        | 21.89        | 22.50         |
|           |            | 8       | 0         | 20.72                   | 20.62        | 20.64        | 21.00         |
|           |            | 8       | 4         | 20.54                   | 20.55        | 20.55        | 21.00         |
|           |            | 8       | 7         | 20.56                   | 20.47        | 20.52        | 21.00         |
|           |            | 15      | 0         | 20.61                   | 20.64        | 20.59        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 19975/1712.5            | 20175/1732.5 | 20375/1752.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 23.65                   | 23.65        | 23.56        | 24.00         |
|           |            | 1       | 13        | 23.54                   | 23.43        | 23.44        | 24.00         |
|           |            | 1       | 24        | 23.31                   | 23.28        | 23.44        | 24.00         |
|           |            | 12      | 0         | 22.51                   | 22.51        | 22.44        | 23.00         |
|           |            | 12      | 6         | 22.42                   | 22.41        | 22.46        | 23.00         |
|           |            | 12      | 13        | 22.41                   | 22.39        | 22.56        | 23.00         |
|           |            | 25      | 0         | 22.50                   | 22.44        | 22.46        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.77                   | 22.64        | 22.84        | 23.00         |
|           |            | 1       | 13        | 22.58                   | 22.39        | 22.60        | 23.00         |
|           |            | 1       | 24        | 22.57                   | 22.42        | 22.53        | 23.00         |
|           |            | 12      | 0         | 21.54                   | 21.38        | 21.23        | 22.00         |
|           |            | 12      | 6         | 21.46                   | 21.37        | 21.13        | 22.00         |
|           |            | 12      | 13        | 21.37                   | 21.33        | 21.05        | 22.00         |
|           |            | 25      | 0         | 21.20                   | 21.24        | 20.94        | 22.00         |
|           | 64QAM      | 1       | 0         | 22.02                   | 22.16        | 22.09        | 22.50         |
|           |            | 1       | 13        | 21.94                   | 22.30        | 22.00        | 22.50         |
|           |            | 1       | 24        | 21.95                   | 21.93        | 21.85        | 22.50         |
|           |            | 12      | 0         | 20.70                   | 20.58        | 20.61        | 21.00         |
|           |            | 12      | 6         | 20.51                   | 20.50        | 20.51        | 21.00         |
|           |            | 12      | 13        | 20.53                   | 20.42        | 20.48        | 21.00         |
|           |            | 25      | 0         | 20.59                   | 20.60        | 20.54        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20000/1715              | 20175/1732.5 | 20350/1750   |               |
| 10MHz     | QPSK       | 1       | 0         | 23.67                   | 23.66        | 23.59        | 24.00         |



|           |            | 1       | 25        | 23.57                   | 23.48        | 23.48        | 24.00         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 1       | 49        | 23.33                   | 23.32        | 23.47        | 24.00         |
|           |            | 25      | 0         | 22.54                   | 22.56        | 22.48        | 23.00         |
|           |            | 25      | 13        | 22.45                   | 22.46        | 22.50        | 23.00         |
|           |            | 25      | 25        | 22.43                   | 22.43        | 22.61        | 23.00         |
|           |            | 50      | 0         | 22.58                   | 22.46        | 22.50        | 23.00         |
|           |            | 50      | 13        | 22.45                   | 22.46        | 22.50        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.79                   | 22.67        | 22.86        | 23.00         |
|           |            | 1       | 25        | 22.61                   | 22.43        | 22.63        | 23.00         |
|           |            | 1       | 49        | 22.60                   | 22.44        | 22.56        | 23.00         |
|           |            | 25      | 0         | 21.57                   | 21.43        | 21.27        | 22.00         |
|           |            | 25      | 13        | 21.48                   | 21.41        | 21.16        | 22.00         |
|           |            | 25      | 25        | 21.40                   | 21.38        | 21.09        | 22.00         |
|           |            | 50      | 0         | 21.23                   | 21.29        | 20.98        | 22.00         |
|           | 64QAM      | 1       | 0         | 22.04                   | 22.19        | 22.11        | 22.50         |
|           |            | 1       | 25        | 21.97                   | 22.34        | 22.03        | 22.50         |
|           |            | 1       | 49        | 21.98                   | 21.95        | 21.88        | 22.50         |
|           |            | 25      | 0         | 20.73                   | 20.63        | 20.65        | 21.00         |
|           |            | 25      | 13        | 20.53                   | 20.54        | 20.54        | 21.00         |
|           |            | 25      | 25        | 20.56                   | 20.47        | 20.52        | 21.00         |
|           |            | 50      | 0         | 20.62                   | 20.65        | 20.58        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20025/1717.5            | 20175/1732.5 | 20325/1747.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 23.66                   | 23.62        | 23.57        | 24.00         |
|           |            | 1       | 38        | 23.55                   | 23.47        | 23.45        | 24.00         |
|           |            | 1       | 74        | 23.30                   | 23.27        | 23.43        | 24.00         |
|           |            | 36      | 0         | 22.52                   | 22.52        | 22.45        | 23.00         |
|           |            | 36      | 18        | 22.42                   | 22.41        | 22.46        | 23.00         |
|           |            | 36      | 39        | 22.40                   | 22.40        | 22.57        | 23.00         |
|           |            | 75      | 0         | 22.56                   | 22.42        | 22.45        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.74                   | 22.65        | 22.84        | 23.00         |
|           |            | 1       | 38        | 22.59                   | 22.40        | 22.61        | 23.00         |
|           |            | 1       | 74        | 22.57                   | 22.40        | 22.53        | 23.00         |
|           |            | 36      | 0         | 21.54                   | 21.41        | 21.24        | 22.00         |
|           |            | 36      | 18        | 21.45                   | 21.36        | 21.12        | 22.00         |
|           |            | 36      | 39        | 21.38                   | 21.34        | 21.06        | 22.00         |
|           |            | 75      | 0         | 21.20                   | 21.24        | 20.94        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.99                   | 22.17        | 22.09        | 22.50         |
|           |            | 1       | 38        | 21.95                   | 22.31        | 22.01        | 22.50         |
|           |            | 1       | 74        | 21.95                   | 21.91        | 21.85        | 22.50         |
|           |            | 36      | 0         | 20.70                   | 20.61        | 20.62        | 21.00         |
|           |            | 36      | 18        | 20.50                   | 20.49        | 20.50        | 21.00         |
|           |            | 36      | 39        | 20.54                   | 20.43        | 20.49        | 21.00         |
|           |            | 75      | 0         | 20.59                   | 20.60        | 20.54        | 21.00         |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |            | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|--------------|------------|---------------|
|           |            |         |           | 20050/1720              | 20175/1732.5 | 20300/1745 |               |
| 20MHz     | QPSK       | 1       | 0         | 23.63                   | 23.58        | 23.54      | 24.00         |
|           |            | 1       | 50        | 23.54                   | 23.43        | 23.43      | 24.00         |
|           |            | 1       | 99        | 23.28                   | 23.26        | 23.40      | 24.00         |
|           |            | 50      | 0         | 22.49                   | 22.47        | 22.41      | 23.00         |
|           |            | 50      | 25        | 22.40                   | 22.37        | 22.43      | 23.00         |
|           |            | 50      | 50        | 22.37                   | 22.35        | 22.53      | 23.00         |
|           |            | 100     | 0         | 22.52                   | 22.37        | 22.41      | 23.00         |
|           | 16QAM      | 1       | 0         | 22.72                   | 22.61        | 22.79      | 23.00         |
|           |            | 1       | 50        | 22.55                   | 22.38        | 22.57      | 23.00         |
|           |            | 1       | 99        | 22.55                   | 22.37        | 22.51      | 23.00         |
|           |            | 50      | 0         | 21.51                   | 21.37        | 21.21      | 22.00         |
|           |            | 50      | 25        | 21.42                   | 21.34        | 21.09      | 22.00         |
|           |            | 50      | 50        | 21.35                   | 21.29        | 21.02      | 22.00         |
|           |            | 100     | 0         | 21.18                   | 21.20        | 20.91      | 22.00         |
|           | 64QAM      | 1       | 0         | 21.97                   | 22.13        | 22.04      | 22.50         |
|           |            | 1       | 50        | 21.91                   | 22.29        | 21.97      | 22.50         |
|           |            | 1       | 99        | 21.93                   | 21.88        | 21.83      | 22.50         |
|           |            | 50      | 0         | 20.67                   | 20.57        | 20.59      | 21.00         |
|           |            | 50      | 25        | 20.47                   | 20.47        | 20.47      | 21.00         |
|           |            | 50      | 50        | 20.51                   | 20.38        | 20.45      | 21.00         |
|           |            | 100     | 0         | 20.57                   | 20.56        | 20.51      | 21.00         |

| LTE FDD Band 4<br>(REC On/Off, Hotspot On) |            |         |           | Conducted Power(dBm)    |              |              |               |
|--------------------------------------------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
| Bandwidth                                  | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|                                            |            |         |           | 19957/1710.7            | 20175/1732.5 | 20393/1754.3 |               |
| 1.4MHz                                     | QPSK       | 1       | 0         | 18.40                   | 18.22        | 18.24        | 18.50         |
|                                            |            | 1       | 2         | 18.07                   | 18.15        | 18.04        | 18.50         |
|                                            |            | 1       | 5         | 18.03                   | 18.04        | 18.00        | 18.50         |
|                                            |            | 3       | 0         | 18.11                   | 18.12        | 18.05        | 18.50         |
|                                            |            | 3       | 2         | 18.05                   | 18.05        | 18.02        | 18.50         |
|                                            |            | 3       | 3         | 17.95                   | 17.99        | 18.18        | 18.50         |
|                                            |            | 6       | 0         | 18.00                   | 18.05        | 18.04        | 18.50         |
|                                            | 16QAM      | 1       | 0         | 18.29                   | 18.34        | 18.26        | 18.50         |
|                                            |            | 1       | 2         | 18.14                   | 17.96        | 18.22        | 18.50         |
|                                            |            | 1       | 5         | 18.24                   | 17.96        | 18.12        | 18.50         |
|                                            |            | 3       | 0         | 18.10                   | 18.03        | 18.08        | 18.50         |
|                                            |            | 3       | 2         | 18.05                   | 18.01        | 17.93        | 18.50         |
|                                            |            | 3       | 3         | 17.89                   | 17.89        | 17.92        | 18.50         |
|                                            |            | 6       | 0         | 17.97                   | 17.97        | 17.90        | 18.50         |
|                                            | 64QAM      | 1       | 0         | 18.15                   | 18.20        | 18.12        | 18.50         |



|           |            | 1       | 2         | 17.89                   | 17.71        | 17.97        | 18.50         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 1       | 5         | 18.07                   | 17.79        | 17.95        | 18.50         |
|           |            | 3       | 0         | 17.91                   | 17.84        | 17.89        | 18.50         |
|           |            | 3       | 2         | 17.98                   | 17.94        | 17.86        | 18.50         |
|           |            | 3       | 3         | 17.91                   | 17.91        | 17.94        | 18.50         |
|           |            | 6       | 0         | 17.94                   | 17.94        | 17.87        | 18.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 19965/1711.5            | 20175/1732.5 | 20385/1753.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 18.38                   | 18.19        | 18.22        | 18.50         |
|           |            | 1       | 7         | 18.05                   | 18.10        | 18.01        | 18.50         |
|           |            | 1       | 14        | 18.02                   | 18.04        | 17.98        | 18.50         |
|           |            | 8       | 0         | 18.08                   | 18.07        | 18.01        | 18.50         |
|           |            | 8       | 4         | 18.02                   | 18.00        | 18.00        | 18.50         |
|           |            | 8       | 7         | 17.92                   | 17.92        | 18.13        | 18.50         |
|           |            | 15      | 0         | 17.91                   | 17.99        | 17.98        | 18.50         |
|           | 16QAM      | 1       | 0         | 18.28                   | 18.31        | 18.22        | 18.50         |
|           |            | 1       | 7         | 18.10                   | 17.92        | 18.18        | 18.50         |
|           |            | 1       | 14        | 18.22                   | 17.93        | 18.11        | 18.50         |
|           |            | 8       | 0         | 18.06                   | 17.98        | 18.04        | 18.50         |
|           |            | 8       | 4         | 18.03                   | 18.00        | 17.91        | 18.50         |
|           |            | 8       | 7         | 17.86                   | 17.84        | 17.88        | 18.50         |
|           |            | 15      | 0         | 17.94                   | 17.92        | 17.88        | 18.50         |
|           | 64QAM      | 1       | 0         | 18.14                   | 18.17        | 18.08        | 18.50         |
|           |            | 1       | 7         | 17.85                   | 17.67        | 17.93        | 18.50         |
|           |            | 1       | 14        | 18.05                   | 17.76        | 17.94        | 18.50         |
|           |            | 8       | 0         | 17.87                   | 17.79        | 17.85        | 18.50         |
|           |            | 8       | 4         | 17.96                   | 17.93        | 17.84        | 18.50         |
|           |            | 8       | 7         | 17.88                   | 17.86        | 17.90        | 18.50         |
|           |            | 15      | 0         | 17.91                   | 17.89        | 17.85        | 18.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 19975/1712.5            | 20175/1732.5 | 20375/1752.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 18.35                   | 18.17        | 18.18        | 18.50         |
|           |            | 1       | 13        | 18.03                   | 18.06        | 17.98        | 18.50         |
|           |            | 1       | 24        | 17.99                   | 17.99        | 17.94        | 18.50         |
|           |            | 12      | 0         | 18.05                   | 18.02        | 17.97        | 18.50         |
|           |            | 12      | 6         | 18.00                   | 17.96        | 17.95        | 18.50         |
|           |            | 12      | 13        | 17.90                   | 17.90        | 18.09        | 18.50         |
|           |            | 25      | 0         | 17.89                   | 17.98        | 17.96        | 18.50         |
|           | 16QAM      | 1       | 0         | 18.25                   | 18.27        | 18.19        | 18.50         |
|           |            | 1       | 13        | 18.07                   | 17.90        | 18.15        | 18.50         |
|           |            | 1       | 24        | 18.19                   | 17.91        | 18.07        | 18.50         |
|           |            | 12      | 0         | 18.04                   | 17.94        | 18.01        | 18.50         |
|           |            | 12      | 6         | 18.00                   | 17.95        | 17.87        | 18.50         |



|           |            | 12      | 13        | 17.83                   | 17.79        | 17.84        | 18.50         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 25      | 0         | 17.92                   | 17.88        | 17.83        | 18.50         |
|           | 64QAM      | 1       | 0         | 18.11                   | 18.13        | 18.05        | 18.50         |
|           |            | 1       | 13        | 17.82                   | 17.65        | 17.90        | 18.50         |
|           |            | 1       | 24        | 18.02                   | 17.74        | 17.90        | 18.50         |
|           |            | 12      | 0         | 17.85                   | 17.75        | 17.82        | 18.50         |
|           |            | 12      | 6         | 17.93                   | 17.88        | 17.80        | 18.50         |
|           |            | 12      | 13        | 17.85                   | 17.81        | 17.86        | 18.50         |
|           |            | 25      | 0         | 17.89                   | 17.85        | 17.80        | 18.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20000/1715              | 20175/1732.5 | 20350/1750   |               |
| 10MHz     | QPSK       | 1       | 0         | 18.37                   | 18.18        | 18.21        | 18.50         |
|           |            | 1       | 25        | 18.06                   | 18.11        | 18.02        | 18.50         |
|           |            | 1       | 49        | 18.01                   | 18.03        | 17.97        | 18.50         |
|           |            | 25      | 0         | 18.08                   | 18.07        | 18.01        | 18.50         |
|           |            | 25      | 13        | 18.03                   | 18.01        | 17.99        | 18.50         |
|           |            | 25      | 25        | 17.92                   | 17.94        | 18.14        | 18.50         |
|           |            | 50      | 0         | 17.97                   | 18.00        | 18.00        | 18.50         |
|           | 16QAM      | 1       | 0         | 18.27                   | 18.30        | 18.21        | 18.50         |
|           |            | 1       | 25        | 18.10                   | 17.94        | 18.18        | 18.50         |
|           |            | 1       | 49        | 18.22                   | 17.93        | 18.10        | 18.50         |
|           |            | 25      | 0         | 18.07                   | 17.99        | 18.05        | 18.50         |
|           |            | 25      | 13        | 18.02                   | 17.99        | 17.90        | 18.50         |
|           |            | 25      | 25        | 17.86                   | 17.84        | 17.88        | 18.50         |
|           |            | 50      | 0         | 17.95                   | 17.93        | 17.87        | 18.50         |
|           | 64QAM      | 1       | 0         | 18.13                   | 18.16        | 18.07        | 18.50         |
|           |            | 1       | 25        | 17.85                   | 17.69        | 17.93        | 18.50         |
|           |            | 1       | 49        | 18.05                   | 17.76        | 17.93        | 18.50         |
|           |            | 25      | 0         | 17.88                   | 17.80        | 17.86        | 18.50         |
|           |            | 25      | 13        | 17.95                   | 17.92        | 17.83        | 18.50         |
|           |            | 25      | 25        | 17.88                   | 17.86        | 17.90        | 18.50         |
|           |            | 50      | 0         | 17.92                   | 17.90        | 17.84        | 18.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20025/1717.5            | 20175/1732.5 | 20325/1747.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 18.36                   | 18.14        | 18.19        | 18.50         |
|           |            | 1       | 38        | 18.04                   | 18.10        | 17.99        | 18.50         |
|           |            | 1       | 74        | 17.98                   | 17.98        | 17.93        | 18.50         |
|           |            | 36      | 0         | 18.06                   | 18.03        | 17.98        | 18.50         |
|           |            | 36      | 18        | 18.00                   | 17.96        | 17.95        | 18.50         |
|           |            | 36      | 39        | 17.89                   | 17.91        | 18.10        | 18.50         |
|           |            | 75      | 0         | 17.95                   | 17.96        | 17.95        | 18.50         |
|           | 16QAM      | 1       | 0         | 18.22                   | 18.28        | 18.19        | 18.50         |
|           |            | 1       | 38        | 18.08                   | 17.91        | 18.16        | 18.50         |



|           |            | 1       | 74        | 18.19                   | 17.89        | 18.07      | 18.50         |
|-----------|------------|---------|-----------|-------------------------|--------------|------------|---------------|
|           |            | 36      | 0         | 18.04                   | 17.97        | 18.02      | 18.50         |
|           |            | 36      | 18        | 17.99                   | 17.94        | 17.86      | 18.50         |
|           |            | 36      | 39        | 17.84                   | 17.80        | 17.85      | 18.50         |
|           |            | 75      | 0         | 17.92                   | 17.88        | 17.83      | 18.50         |
|           | 64QAM      | 1       | 0         | 18.08                   | 18.14        | 18.05      | 18.50         |
|           |            | 1       | 38        | 17.83                   | 17.66        | 17.91      | 18.50         |
|           |            | 1       | 74        | 18.02                   | 17.72        | 17.90      | 18.50         |
|           |            | 36      | 0         | 17.85                   | 17.78        | 17.83      | 18.50         |
|           |            | 36      | 18        | 17.92                   | 17.87        | 17.79      | 18.50         |
|           |            | 36      | 39        | 17.86                   | 17.82        | 17.87      | 18.50         |
|           |            | 75      | 0         | 17.89                   | 17.85        | 17.80      | 18.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |            | Tune-up Limit |
|           |            |         |           | 20050/1720              | 20175/1732.5 | 20300/1745 |               |
| 20MHz     | QPSK       | 1       | 0         | 18.33                   | 18.10        | 18.16      | 18.50         |
|           |            | 1       | 50        | 18.03                   | 18.06        | 17.97      | 18.50         |
|           |            | 1       | 99        | 17.96                   | 17.97        | 17.90      | 18.50         |
|           |            | 50      | 0         | 18.03                   | 17.98        | 17.94      | 18.50         |
|           |            | 50      | 25        | 17.98                   | 17.92        | 17.92      | 18.50         |
|           |            | 50      | 50        | 17.86                   | 17.86        | 18.06      | 18.50         |
|           |            | 100     | 0         | 17.92                   | 17.91        | 17.91      | 18.50         |
|           | 16QAM      | 1       | 0         | 18.20                   | 18.24        | 18.14      | 18.50         |
|           |            | 1       | 50        | 18.04                   | 17.89        | 18.12      | 18.50         |
|           |            | 1       | 99        | 18.17                   | 17.86        | 18.05      | 18.50         |
|           |            | 50      | 0         | 18.01                   | 17.93        | 17.99      | 18.50         |
|           |            | 50      | 25        | 17.96                   | 17.92        | 17.83      | 18.50         |
|           |            | 50      | 50        | 17.81                   | 17.75        | 17.81      | 18.50         |
|           |            | 100     | 0         | 17.90                   | 17.84        | 17.80      | 18.50         |
|           | 64QAM      | 1       | 0         | 18.06                   | 18.10        | 18.00      | 18.50         |
|           |            | 1       | 50        | 17.79                   | 17.64        | 17.87      | 18.50         |
|           |            | 1       | 99        | 18.00                   | 17.69        | 17.88      | 18.50         |
|           |            | 50      | 0         | 17.82                   | 17.74        | 17.80      | 18.50         |
|           |            | 50      | 25        | 17.89                   | 17.85        | 17.76      | 18.50         |
|           |            | 50      | 50        | 17.83                   | 17.77        | 17.83      | 18.50         |
|           |            | 100     | 0         | 17.87                   | 17.81        | 17.77      | 18.50         |

| LTE FDD Band 4<br>(Hotspot Off+Sensor On) |            |         |           | Conducted Power(dBm)    |              |              |               |
|-------------------------------------------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
| Bandwidth                                 | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|                                           |            |         |           | 19957/1710.7            | 20175/1732.5 | 20393/1754.3 |               |
| 1.4MHz                                    | QPSK       | 1       | 0         | 21.45                   | 21.43        | 21.37        | 22.00         |
|                                           |            | 1       | 2         | 21.23                   | 21.36        | 21.29        | 22.00         |
|                                           |            | 1       | 5         | 21.28                   | 21.35        | 21.31        | 22.00         |





|           |            | 3       | 0         | 21.33                   | 21.31        | 21.29        | 22.00         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 3       | 2         | 21.24                   | 21.22        | 21.33        | 22.00         |
|           |            | 3       | 3         | 21.19                   | 21.15        | 21.39        | 22.00         |
|           |            | 6       | 0         | 21.34                   | 21.38        | 21.33        | 22.00         |
|           | 16QAM      | 1       | 0         | 21.32                   | 21.54        | 21.33        | 22.00         |
|           |            | 1       | 2         | 21.28                   | 21.55        | 21.34        | 22.00         |
|           |            | 1       | 5         | 21.49                   | 21.43        | 21.18        | 22.00         |
|           |            | 3       | 0         | 21.25                   | 21.22        | 21.30        | 22.00         |
|           |            | 3       | 2         | 21.18                   | 21.17        | 21.32        | 22.00         |
|           |            | 3       | 3         | 21.19                   | 21.23        | 21.22        | 22.00         |
|           |            | 6       | 0         | 21.14                   | 21.31        | 21.17        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.23                   | 21.17        | 21.16        | 22.00         |
|           |            | 1       | 2         | 21.12                   | 21.05        | 21.13        | 22.00         |
|           |            | 1       | 5         | 21.13                   | 21.07        | 21.06        | 22.00         |
|           |            | 3       | 0         | 21.05                   | 21.11        | 21.02        | 22.00         |
|           |            | 3       | 2         | 21.00                   | 21.09        | 21.04        | 22.00         |
|           |            | 3       | 3         | 21.04                   | 21.07        | 21.01        | 22.00         |
|           |            | 6       | 0         | 20.78                   | 20.88        | 20.66        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 19965/1711.5            | 20175/1732.5 | 20385/1753.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 21.43                   | 21.40        | 21.35        | 22.00         |
|           |            | 1       | 7         | 21.21                   | 21.31        | 21.26        | 22.00         |
|           |            | 1       | 14        | 21.27                   | 21.35        | 21.29        | 22.00         |
|           |            | 8       | 0         | 21.30                   | 21.26        | 21.25        | 22.00         |
|           |            | 8       | 4         | 21.21                   | 21.17        | 21.31        | 22.00         |
|           |            | 8       | 7         | 21.16                   | 21.08        | 21.34        | 22.00         |
|           |            | 15      | 0         | 21.25                   | 21.32        | 21.27        | 22.00         |
|           | 16QAM      | 1       | 0         | 21.31                   | 21.51        | 21.29        | 22.00         |
|           |            | 1       | 7         | 21.24                   | 21.51        | 21.30        | 22.00         |
|           |            | 1       | 14        | 21.47                   | 21.40        | 21.17        | 22.00         |
|           |            | 8       | 0         | 21.21                   | 21.17        | 21.26        | 22.00         |
|           |            | 8       | 4         | 21.16                   | 21.16        | 21.30        | 22.00         |
|           |            | 8       | 7         | 21.16                   | 21.18        | 21.18        | 22.00         |
|           |            | 15      | 0         | 21.11                   | 21.26        | 21.15        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.22                   | 21.14        | 21.12        | 22.00         |
|           |            | 1       | 7         | 21.08                   | 21.01        | 21.09        | 22.00         |
|           |            | 1       | 14        | 21.11                   | 21.04        | 21.05        | 22.00         |
|           |            | 8       | 0         | 20.73                   | 20.80        | 20.71        | 21.00         |
|           |            | 8       | 4         | 20.68                   | 20.80        | 20.73        | 21.00         |
|           |            | 8       | 7         | 20.71                   | 20.74        | 20.70        | 21.00         |
|           |            | 15      | 0         | 20.75                   | 20.83        | 20.64        | 21.00         |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            |         |           | 19975/1712.5            | 20175/1732.5 | 20375/1752.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 21.40                   | 21.38        | 21.31        | 22.00         |
|           |            | 1       | 13        | 21.19                   | 21.27        | 21.23        | 22.00         |
|           |            | 1       | 24        | 21.24                   | 21.30        | 21.25        | 22.00         |
|           |            | 12      | 0         | 21.27                   | 21.21        | 21.21        | 22.00         |
|           |            | 12      | 6         | 21.19                   | 21.13        | 21.26        | 22.00         |
|           |            | 12      | 13        | 21.14                   | 21.06        | 21.30        | 22.00         |
|           |            | 25      | 0         | 21.23                   | 21.31        | 21.25        | 22.00         |
|           | 16QAM      | 1       | 0         | 21.28                   | 21.47        | 21.26        | 22.00         |
|           |            | 1       | 13        | 21.21                   | 21.49        | 21.27        | 22.00         |
|           |            | 1       | 24        | 21.44                   | 21.38        | 21.13        | 22.00         |
|           |            | 12      | 0         | 21.19                   | 21.13        | 21.23        | 22.00         |
|           |            | 12      | 6         | 21.13                   | 21.11        | 21.26        | 22.00         |
|           |            | 12      | 13        | 21.13                   | 21.13        | 21.14        | 22.00         |
|           |            | 25      | 0         | 21.09                   | 21.22        | 21.10        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.19                   | 21.10        | 21.09        | 22.00         |
|           |            | 1       | 13        | 21.05                   | 20.99        | 21.06        | 22.00         |
|           |            | 1       | 24        | 21.08                   | 21.02        | 21.01        | 22.00         |
|           |            | 12      | 0         | 20.71                   | 20.76        | 20.68        | 21.00         |
|           |            | 12      | 6         | 20.65                   | 20.75        | 20.69        | 21.00         |
|           |            | 12      | 13        | 20.68                   | 20.69        | 20.66        | 21.00         |
|           |            | 25      | 0         | 20.73                   | 20.79        | 20.59        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20000/1715              | 20175/1732.5 | 20350/1750   |               |
| 10MHz     | QPSK       | 1       | 0         | 21.42                   | 21.39        | 21.34        | 22.00         |
|           |            | 1       | 25        | 21.22                   | 21.32        | 21.27        | 22.00         |
|           |            | 1       | 49        | 21.26                   | 21.34        | 21.28        | 22.00         |
|           |            | 25      | 0         | 21.30                   | 21.26        | 21.25        | 22.00         |
|           |            | 25      | 13        | 21.22                   | 21.18        | 21.30        | 22.00         |
|           |            | 25      | 25        | 21.16                   | 21.10        | 21.35        | 22.00         |
|           |            | 50      | 0         | 21.31                   | 21.33        | 21.29        | 22.00         |
|           | 16QAM      | 1       | 0         | 21.30                   | 21.50        | 21.28        | 22.00         |
|           |            | 1       | 25        | 21.24                   | 21.53        | 21.30        | 22.00         |
|           |            | 1       | 49        | 21.47                   | 21.40        | 21.16        | 22.00         |
|           |            | 25      | 0         | 21.22                   | 21.18        | 21.27        | 22.00         |
|           |            | 25      | 13        | 21.15                   | 21.15        | 21.29        | 22.00         |
|           |            | 25      | 25        | 21.16                   | 21.18        | 21.18        | 22.00         |
|           |            | 50      | 0         | 21.12                   | 21.27        | 21.14        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.21                   | 21.13        | 21.11        | 22.00         |
|           |            | 1       | 25        | 21.08                   | 21.03        | 21.09        | 22.00         |
|           |            | 1       | 49        | 21.11                   | 21.04        | 21.04        | 22.00         |
|           |            | 25      | 0         | 20.74                   | 20.81        | 20.72        | 21.00         |



|           |            | 25      | 13        | 20.67                   | 20.79        | 20.72        | 21.00         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 25      | 25        | 20.71                   | 20.74        | 20.70        | 21.00         |
|           |            | 50      | 0         | 20.76                   | 20.84        | 20.63        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20025/1717.5            | 20175/1732.5 | 20325/1747.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 21.41                   | 21.35        | 21.32        | 22.00         |
|           |            | 1       | 38        | 21.20                   | 21.31        | 21.24        | 22.00         |
|           |            | 1       | 74        | 21.23                   | 21.29        | 21.24        | 22.00         |
|           |            | 36      | 0         | 21.28                   | 21.22        | 21.22        | 22.00         |
|           |            | 36      | 18        | 21.19                   | 21.13        | 21.26        | 22.00         |
|           |            | 36      | 39        | 21.13                   | 21.07        | 21.31        | 22.00         |
|           |            | 75      | 0         | 21.29                   | 21.29        | 21.24        | 22.00         |
|           | 16QAM      | 1       | 0         | 21.25                   | 21.48        | 21.26        | 22.00         |
|           |            | 1       | 38        | 21.22                   | 21.50        | 21.28        | 22.00         |
|           |            | 1       | 74        | 21.44                   | 21.36        | 21.13        | 22.00         |
|           |            | 36      | 0         | 21.19                   | 21.16        | 21.24        | 22.00         |
|           |            | 36      | 18        | 21.12                   | 21.10        | 21.25        | 22.00         |
|           |            | 36      | 39        | 21.14                   | 21.14        | 21.15        | 22.00         |
|           |            | 75      | 0         | 21.09                   | 21.22        | 21.10        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.16                   | 21.11        | 21.09        | 22.00         |
|           |            | 1       | 38        | 21.06                   | 21.00        | 21.07        | 22.00         |
|           |            | 1       | 74        | 21.08                   | 21.00        | 21.01        | 22.00         |
|           |            | 36      | 0         | 20.71                   | 20.79        | 20.69        | 21.00         |
|           |            | 36      | 18        | 20.64                   | 20.74        | 20.68        | 21.00         |
|           |            | 36      | 39        | 20.69                   | 20.70        | 20.67        | 21.00         |
|           |            | 75      | 0         | 20.73                   | 20.79        | 20.59        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20050/1720              | 20175/1732.5 | 20300/1745   |               |
| 20MHz     | QPSK       | 1       | 0         | 21.38                   | 21.31        | 21.29        | 22.00         |
|           |            | 1       | 50        | 21.19                   | 21.27        | 21.22        | 22.00         |
|           |            | 1       | 99        | 21.21                   | 21.28        | 21.21        | 22.00         |
|           |            | 50      | 0         | 21.25                   | 21.17        | 21.18        | 22.00         |
|           |            | 50      | 25        | 21.17                   | 21.09        | 21.23        | 22.00         |
|           |            | 50      | 50        | 21.10                   | 21.02        | 21.27        | 22.00         |
|           |            | 100     | 0         | 21.26                   | 21.24        | 21.20        | 22.00         |
|           | 16QAM      | 1       | 0         | 21.23                   | 21.44        | 21.21        | 22.00         |
|           |            | 1       | 50        | 21.18                   | 21.48        | 21.24        | 22.00         |
|           |            | 1       | 99        | 21.42                   | 21.33        | 21.11        | 22.00         |
|           |            | 50      | 0         | 21.16                   | 21.12        | 21.21        | 22.00         |
|           |            | 50      | 25        | 21.09                   | 21.08        | 21.22        | 22.00         |
|           |            | 50      | 50        | 21.11                   | 21.09        | 21.11        | 22.00         |
|           |            | 100     | 0         | 21.07                   | 21.18        | 21.07        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.14                   | 21.07        | 21.04        | 22.00         |



|  |  |     |    |       |       |       |       |
|--|--|-----|----|-------|-------|-------|-------|
|  |  | 1   | 50 | 21.02 | 20.98 | 21.03 | 22.00 |
|  |  | 1   | 99 | 21.06 | 20.97 | 20.99 | 22.00 |
|  |  | 50  | 0  | 20.68 | 20.75 | 20.66 | 21.00 |
|  |  | 50  | 25 | 20.61 | 20.72 | 20.65 | 21.00 |
|  |  | 50  | 50 | 20.66 | 20.65 | 20.63 | 21.00 |
|  |  | 100 | 0  | 20.71 | 20.75 | 20.56 | 21.00 |

| LTE FDD Band 5<br>(REC On/Off) |            |         |           | Conducted Power(dBm)    |             |             |                  |
|--------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|------------------|
| Bandwidth                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                |            |         |           | 20407/824.7             | 20525/836.5 | 20643/848.3 |                  |
| 1.4MHz                         | QPSK       | 1       | 0         | 23.16                   | 23.10       | 23.07       | 24.00            |
|                                |            | 1       | 2         | 23.13                   | 22.96       | 23.02       | 24.00            |
|                                |            | 1       | 5         | 23.04                   | 23.10       | 23.09       | 24.00            |
|                                |            | 3       | 0         | 23.09                   | 23.11       | 23.01       | 24.00            |
|                                |            | 3       | 2         | 23.07                   | 23.15       | 23.08       | 24.00            |
|                                |            | 3       | 3         | 22.98                   | 23.10       | 22.98       | 24.00            |
|                                |            | 6       | 0         | 21.97                   | 22.07       | 22.07       | 23.00            |
|                                | 16QAM      | 1       | 0         | 22.15                   | 22.23       | 22.28       | 23.00            |
|                                |            | 1       | 2         | 22.08                   | 22.02       | 22.23       | 23.00            |
|                                |            | 1       | 5         | 22.06                   | 22.09       | 22.18       | 23.00            |
|                                |            | 3       | 0         | 21.88                   | 21.91       | 21.89       | 23.00            |
|                                |            | 3       | 2         | 21.94                   | 21.93       | 21.93       | 23.00            |
|                                |            | 3       | 3         | 21.96                   | 21.93       | 21.99       | 23.00            |
|                                |            | 6       | 0         | 21.06                   | 20.99       | 20.98       | 22.00            |
|                                | 64QAM      | 1       | 0         | 22.18                   | 22.09       | 22.02       | 22.50            |
|                                |            | 1       | 2         | 21.93                   | 21.79       | 21.70       | 22.50            |
|                                |            | 1       | 5         | 21.88                   | 22.18       | 22.05       | 22.50            |
|                                |            | 3       | 0         | 21.62                   | 21.68       | 21.56       | 22.50            |
|                                |            | 3       | 2         | 21.60                   | 21.69       | 21.64       | 22.50            |
|                                |            | 3       | 3         | 21.60                   | 21.70       | 21.68       | 22.50            |
|                                |            | 6       | 0         | 20.73                   | 20.81       | 20.69       | 21.00            |
| Bandwidth                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                |            |         |           | 20415/825.5             | 20525/836.5 | 20635/847.5 |                  |
| 3MHz                           | QPSK       | 1       | 0         | 23.17                   | 23.13       | 23.09       | 24.00            |
|                                |            | 1       | 7         | 23.17                   | 23.02       | 23.07       | 24.00            |
|                                |            | 1       | 14        | 23.06                   | 23.14       | 23.12       | 24.00            |
|                                |            | 8       | 0         | 22.19                   | 22.23       | 22.14       | 23.00            |
|                                |            | 8       | 4         | 22.20                   | 22.26       | 22.19       | 23.00            |
|                                |            | 8       | 7         | 22.08                   | 22.23       | 22.09       | 23.00            |
|                                |            | 15      | 0         | 22.06                   | 22.12       | 22.12       | 23.00            |
|                                | 16QAM      | 1       | 0         | 22.17                   | 22.24       | 22.30       | 23.00            |
|                                |            | 1       | 7         | 22.11                   | 22.09       | 22.27       | 23.00            |



|           |            | 1       | 14        | 22.08                   | 22.13       | 22.20       | 23.00         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 8       | 0         | 21.00                   | 21.05       | 21.02       | 22.00         |
|           |            | 8       | 4         | 21.04                   | 21.05       | 21.04       | 22.00         |
|           |            | 8       | 7         | 21.06                   | 21.05       | 21.12       | 22.00         |
|           |            | 15      | 0         | 21.10                   | 21.04       | 21.00       | 22.00         |
|           | 64QAM      | 1       | 0         | 22.20                   | 22.10       | 22.04       | 22.50         |
|           |            | 1       | 7         | 21.96                   | 21.86       | 21.74       | 22.50         |
|           |            | 1       | 14        | 21.90                   | 22.22       | 22.07       | 22.50         |
|           |            | 8       | 0         | 20.74                   | 20.82       | 20.69       | 21.00         |
|           |            | 8       | 4         | 20.70                   | 20.81       | 20.75       | 21.00         |
|           |            | 8       | 7         | 20.70                   | 20.82       | 20.81       | 21.00         |
|           |            | 15      | 0         | 20.77                   | 20.86       | 20.71       | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20425/826.5             | 20525/836.5 | 20625/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 23.16                   | 23.09       | 23.07       | 24.00         |
|           |            | 1       | 13        | 23.15                   | 23.01       | 23.04       | 24.00         |
|           |            | 1       | 24        | 23.03                   | 23.09       | 23.08       | 24.00         |
|           |            | 12      | 0         | 22.17                   | 22.19       | 22.11       | 23.00         |
|           |            | 12      | 6         | 22.17                   | 22.21       | 22.15       | 23.00         |
|           |            | 12      | 13        | 22.05                   | 22.20       | 22.05       | 23.00         |
|           |            | 25      | 0         | 22.04                   | 22.08       | 22.07       | 23.00         |
|           | 16QAM      | 1       | 0         | 22.12                   | 22.22       | 22.28       | 23.00         |
|           |            | 1       | 13        | 22.09                   | 22.06       | 22.25       | 23.00         |
|           |            | 1       | 24        | 22.05                   | 22.09       | 22.17       | 23.00         |
|           |            | 12      | 0         | 20.97                   | 21.03       | 20.99       | 22.00         |
|           |            | 12      | 6         | 21.01                   | 21.00       | 21.00       | 22.00         |
|           |            | 12      | 13        | 21.04                   | 21.01       | 21.09       | 22.00         |
|           |            | 25      | 0         | 21.07                   | 20.99       | 20.96       | 22.00         |
|           | 64QAM      | 1       | 0         | 22.15                   | 22.08       | 22.02       | 22.50         |
|           |            | 1       | 13        | 21.94                   | 21.83       | 21.72       | 22.50         |
|           |            | 1       | 24        | 21.87                   | 22.18       | 22.04       | 22.50         |
|           |            | 12      | 0         | 20.71                   | 20.80       | 20.66       | 21.00         |
|           |            | 12      | 6         | 20.67                   | 20.76       | 20.71       | 21.00         |
|           |            | 12      | 13        | 20.68                   | 20.78       | 20.78       | 21.00         |
|           |            | 25      | 0         | 20.74                   | 20.81       | 20.67       | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20450/829               | 20525/836.5 | 20600/844   |               |
| 10MHz     | QPSK       | 1       | 0         | 23.13                   | 23.05       | 23.04       | 24.00         |
|           |            | 1       | 25        | 23.14                   | 22.97       | 23.02       | 24.00         |
|           |            | 1       | 49        | 23.01                   | 23.08       | 23.05       | 24.00         |
|           |            | 25      | 0         | 22.14                   | 22.14       | 22.07       | 23.00         |
|           |            | 25      | 13        | 22.15                   | 22.17       | 22.12       | 23.00         |
|           |            | 25      | 25        | 22.02                   | 22.15       | 22.01       | 23.00         |



|  |       |    |    |       |       |       |       |
|--|-------|----|----|-------|-------|-------|-------|
|  | 16QAM | 50 | 0  | 22.01 | 22.03 | 22.02 | 23.00 |
|  |       | 1  | 0  | 22.10 | 22.18 | 22.23 | 23.00 |
|  |       | 1  | 25 | 22.05 | 22.04 | 22.21 | 23.00 |
|  |       | 1  | 49 | 22.03 | 22.06 | 22.15 | 23.00 |
|  |       | 25 | 0  | 20.94 | 20.99 | 20.96 | 22.00 |
|  |       | 25 | 13 | 20.98 | 20.98 | 20.97 | 22.00 |
|  |       | 25 | 25 | 21.01 | 20.96 | 21.05 | 22.00 |
|  |       | 50 | 0  | 21.05 | 20.95 | 20.93 | 22.00 |
|  | 64QAM | 1  | 0  | 22.13 | 22.04 | 21.97 | 22.50 |
|  |       | 1  | 25 | 21.90 | 21.81 | 21.68 | 22.50 |
|  |       | 1  | 49 | 21.85 | 22.15 | 22.02 | 22.50 |
|  |       | 25 | 0  | 20.68 | 20.76 | 20.63 | 21.00 |
|  |       | 25 | 13 | 20.64 | 20.74 | 20.68 | 21.00 |
|  |       | 25 | 25 | 20.65 | 20.73 | 20.74 | 21.00 |
|  |       | 50 | 0  | 20.72 | 20.77 | 20.64 | 21.00 |

| LTE FDD Band 7<br>(REC On/Off, Hotspot Off) |            |         |           | Conducted Power(dBm)    |            |              |               |
|---------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                   | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                             |            |         |           | 20775/2502.5            | 21100/2535 | 21425/2567.5 |               |
| 5MHz                                        | QPSK       | 1       | 0         | 23.63                   | 23.62      | 23.41        | 24.00         |
|                                             |            | 1       | 13        | 23.58                   | 23.41      | 23.29        | 24.00         |
|                                             |            | 1       | 24        | 23.62                   | 23.48      | 23.45        | 24.00         |
|                                             |            | 12      | 0         | 22.56                   | 22.51      | 22.42        | 23.00         |
|                                             |            | 12      | 6         | 22.51                   | 22.50      | 22.36        | 23.00         |
|                                             |            | 12      | 13        | 22.56                   | 22.48      | 22.48        | 23.00         |
|                                             |            | 25      | 0         | 22.51                   | 22.57      | 22.47        | 23.00         |
|                                             | 16QAM      | 1       | 0         | 22.56                   | 22.91      | 22.71        | 23.00         |
|                                             |            | 1       | 13        | 22.51                   | 22.74      | 22.41        | 23.00         |
|                                             |            | 1       | 24        | 22.69                   | 22.79      | 22.64        | 23.00         |
|                                             |            | 12      | 0         | 21.51                   | 21.44      | 21.47        | 22.00         |
|                                             |            | 12      | 6         | 21.45                   | 21.40      | 21.33        | 22.00         |
|                                             |            | 12      | 13        | 21.47                   | 21.42      | 21.53        | 22.00         |
|                                             |            | 25      | 0         | 21.50                   | 21.48      | 21.27        | 22.00         |
|                                             | 64QAM      | 1       | 0         | 21.72                   | 21.94      | 21.99        | 22.00         |
|                                             |            | 1       | 13        | 21.67                   | 21.86      | 21.56        | 22.00         |
|                                             |            | 1       | 24        | 21.83                   | 21.85      | 21.79        | 22.00         |
|                                             |            | 12      | 0         | 20.73                   | 20.65      | 20.46        | 21.00         |
|                                             |            | 12      | 6         | 20.66                   | 20.75      | 20.56        | 21.00         |
|                                             |            | 12      | 13        | 20.55                   | 20.67      | 20.52        | 21.00         |
|                                             |            | 25      | 0         | 20.65                   | 20.75      | 20.57        | 21.00         |
| Bandwidth                                   | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                             |            |         |           | 20800/2505              | 21100/2535 | 21400/2565   |               |



| 10MHz     | QPSK       | 1       | 0         | 23.65                   | 23.63      | 23.44        | 24.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 1       | 25        | 23.61                   | 23.46      | 23.33        | 24.00         |
|           |            | 1       | 49        | 23.64                   | 23.52      | 23.48        | 24.00         |
|           |            | 25      | 0         | 22.59                   | 22.56      | 22.46        | 23.00         |
|           |            | 25      | 13        | 22.54                   | 22.55      | 22.40        | 23.00         |
|           |            | 25      | 25        | 22.58                   | 22.52      | 22.53        | 23.00         |
|           |            | 50      | 0         | 22.59                   | 22.59      | 22.51        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.58                   | 22.94      | 22.73        | 23.00         |
|           |            | 1       | 25        | 22.54                   | 22.78      | 22.44        | 23.00         |
|           |            | 1       | 49        | 22.72                   | 22.81      | 22.67        | 23.00         |
|           |            | 25      | 0         | 21.54                   | 21.49      | 21.51        | 22.00         |
|           |            | 25      | 13        | 21.47                   | 21.44      | 21.36        | 22.00         |
|           |            | 25      | 25        | 21.50                   | 21.47      | 21.57        | 22.00         |
|           |            | 50      | 0         | 21.53                   | 21.53      | 21.31        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.74                   | 21.97      | 22.01        | 22.00         |
|           |            | 1       | 25        | 21.70                   | 21.90      | 21.59        | 22.00         |
|           |            | 1       | 49        | 21.86                   | 21.87      | 21.82        | 22.00         |
|           |            | 25      | 0         | 20.76                   | 20.70      | 20.50        | 21.00         |
|           |            | 25      | 13        | 20.68                   | 20.79      | 20.59        | 21.00         |
|           |            | 25      | 25        | 20.58                   | 20.72      | 20.56        | 21.00         |
|           |            | 50      | 0         | 20.68                   | 20.80      | 20.61        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20825/2507.5            | 21100/2535 | 21375/2562.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 23.64                   | 23.59      | 23.42        | 24.00         |
|           |            | 1       | 38        | 23.59                   | 23.45      | 23.30        | 24.00         |
|           |            | 1       | 74        | 23.61                   | 23.47      | 23.44        | 24.00         |
|           |            | 36      | 0         | 22.57                   | 22.52      | 22.43        | 23.00         |
|           |            | 36      | 18        | 22.51                   | 22.50      | 22.36        | 23.00         |
|           |            | 36      | 39        | 22.55                   | 22.49      | 22.49        | 23.00         |
|           |            | 75      | 0         | 22.57                   | 22.55      | 22.46        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.53                   | 22.92      | 22.71        | 23.00         |
|           |            | 1       | 38        | 22.52                   | 22.75      | 22.42        | 23.00         |
|           |            | 1       | 74        | 22.69                   | 22.77      | 22.64        | 23.00         |
|           |            | 36      | 0         | 21.51                   | 21.47      | 21.48        | 22.00         |
|           |            | 36      | 18        | 21.44                   | 21.39      | 21.32        | 22.00         |
|           |            | 36      | 39        | 21.48                   | 21.43      | 21.54        | 22.00         |
|           |            | 75      | 0         | 21.50                   | 21.48      | 21.27        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.69                   | 21.95      | 21.99        | 22.00         |
|           |            | 1       | 38        | 21.68                   | 21.87      | 21.57        | 22.00         |
|           |            | 1       | 74        | 21.83                   | 21.83      | 21.79        | 22.00         |
|           |            | 36      | 0         | 20.73                   | 20.68      | 20.47        | 21.00         |
|           |            | 36      | 18        | 20.65                   | 20.74      | 20.55        | 21.00         |
|           |            | 36      | 39        | 20.56                   | 20.68      | 20.53        | 21.00         |





| Bandwidth | Modulation | 75      | 0         | 20.65                   | 20.75      | 20.57      | 21.00         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 20850/2510              | 21100/2535 | 21350/2560 |               |
| 20MHz     | QPSK       | 1       | 0         | 23.61                   | 23.55      | 23.39      | 24.00         |
|           |            | 1       | 50        | 23.58                   | 23.41      | 23.28      | 24.00         |
|           |            | 1       | 99        | 23.59                   | 23.46      | 23.41      | 24.00         |
|           |            | 50      | 0         | 22.54                   | 22.47      | 22.39      | 23.00         |
|           |            | 50      | 25        | 22.49                   | 22.46      | 22.33      | 23.00         |
|           |            | 50      | 50        | 22.52                   | 22.44      | 22.45      | 23.00         |
|           |            | 100     | 0         | 22.54                   | 22.50      | 22.42      | 23.00         |
|           | 16QAM      | 1       | 0         | 22.51                   | 22.88      | 22.66      | 23.00         |
|           |            | 1       | 50        | 22.48                   | 22.73      | 22.38      | 23.00         |
|           |            | 1       | 99        | 22.67                   | 22.74      | 22.62      | 23.00         |
|           |            | 50      | 0         | 21.48                   | 21.43      | 21.45      | 22.00         |
|           |            | 50      | 25        | 21.41                   | 21.37      | 21.29      | 22.00         |
|           |            | 50      | 50        | 21.45                   | 21.38      | 21.50      | 22.00         |
|           |            | 100     | 0         | 21.48                   | 21.44      | 21.24      | 22.00         |
|           | 64QAM      | 1       | 0         | 21.67                   | 21.91      | 21.94      | 22.00         |
|           |            | 1       | 50        | 21.64                   | 21.85      | 21.53      | 22.00         |
|           |            | 1       | 99        | 21.81                   | 21.80      | 21.77      | 22.00         |
|           |            | 50      | 0         | 20.70                   | 20.64      | 20.44      | 21.00         |
|           |            | 50      | 25        | 20.62                   | 20.72      | 20.52      | 21.00         |
|           |            | 50      | 50        | 20.53                   | 20.63      | 20.49      | 21.00         |
|           |            | 100     | 0         | 20.63                   | 20.71      | 20.54      | 21.00         |

| LTE FDD Band 7<br>(REC On/Off, Hotspot On) |            |         |           | Conducted Power(dBm)    |            |              |               |
|--------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                  | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                            |            |         |           | 20775/2502.5            | 21100/2535 | 21425/2567.5 |               |
| 5MHz                                       | QPSK       | 1       | 0         | 22.35                   | 22.40      | 22.36        | 23.00         |
|                                            |            | 1       | 13        | 22.40                   | 22.23      | 22.23        | 23.00         |
|                                            |            | 1       | 24        | 22.44                   | 22.29      | 22.40        | 23.00         |
|                                            |            | 12      | 0         | 22.50                   | 22.39      | 22.35        | 23.00         |
|                                            |            | 12      | 6         | 22.45                   | 22.35      | 22.31        | 23.00         |
|                                            |            | 12      | 13        | 22.39                   | 22.40      | 22.25        | 23.00         |
|                                            |            | 25      | 0         | 22.54                   | 22.41      | 22.35        | 23.00         |
|                                            | 16QAM      | 1       | 0         | 22.26                   | 22.40      | 22.29        | 23.00         |
|                                            |            | 1       | 13        | 22.29                   | 22.27      | 22.30        | 23.00         |
|                                            |            | 1       | 24        | 22.24                   | 22.44      | 22.26        | 23.00         |
|                                            |            | 12      | 0         | 21.56                   | 21.49      | 21.46        | 22.00         |
|                                            |            | 12      | 6         | 21.53                   | 21.53      | 21.49        | 22.00         |
|                                            |            | 12      | 13        | 21.48                   | 21.45      | 21.45        | 22.00         |
|                                            |            | 25      | 0         | 21.47                   | 21.56      | 21.51        | 22.00         |



|           | 64QAM      | 1       | 0         | 21.51                   | 21.65      | 21.62        | 22.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 1       | 13        | 21.69                   | 21.67      | 21.62        | 22.00         |
|           |            | 1       | 24        | 21.53                   | 21.73      | 21.64        | 22.00         |
|           |            | 12      | 0         | 20.69                   | 20.62      | 20.50        | 21.00         |
|           |            | 12      | 6         | 20.55                   | 20.55      | 20.51        | 21.00         |
|           |            | 12      | 13        | 20.58                   | 20.55      | 20.52        | 21.00         |
|           |            | 25      | 0         | 20.61                   | 20.63      | 20.61        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20800/2505              | 21100/2535 | 21400/2565   |               |
| 10MHz     | QPSK       | 1       | 0         | 22.37                   | 22.41      | 22.39        | 23.00         |
|           |            | 1       | 25        | 22.43                   | 22.28      | 22.27        | 23.00         |
|           |            | 1       | 49        | 22.46                   | 22.33      | 22.43        | 23.00         |
|           |            | 25      | 0         | 22.53                   | 22.44      | 22.39        | 23.00         |
|           |            | 25      | 13        | 22.48                   | 22.40      | 22.35        | 23.00         |
|           |            | 25      | 25        | 22.41                   | 22.44      | 22.30        | 23.00         |
|           |            | 50      | 0         | 22.62                   | 22.43      | 22.39        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.28                   | 22.43      | 22.31        | 23.00         |
|           |            | 1       | 25        | 22.32                   | 22.31      | 22.33        | 23.00         |
|           |            | 1       | 49        | 22.27                   | 22.46      | 22.29        | 23.00         |
|           |            | 25      | 0         | 21.59                   | 21.54      | 21.50        | 22.00         |
|           |            | 25      | 13        | 21.55                   | 21.57      | 21.52        | 22.00         |
|           |            | 25      | 25        | 21.51                   | 21.50      | 21.49        | 22.00         |
|           |            | 50      | 0         | 21.50                   | 21.61      | 21.55        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.53                   | 21.68      | 21.64        | 22.00         |
|           |            | 1       | 25        | 21.72                   | 21.71      | 21.65        | 22.00         |
|           |            | 1       | 49        | 21.56                   | 21.75      | 21.67        | 22.00         |
|           |            | 25      | 0         | 20.72                   | 20.67      | 20.54        | 21.00         |
|           |            | 25      | 13        | 20.57                   | 20.59      | 20.54        | 21.00         |
|           |            | 25      | 25        | 20.61                   | 20.60      | 20.56        | 21.00         |
|           |            | 50      | 0         | 20.64                   | 20.68      | 20.65        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20825/2507.5            | 21100/2535 | 21375/2562.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 22.36                   | 22.37      | 22.37        | 23.00         |
|           |            | 1       | 38        | 22.41                   | 22.27      | 22.24        | 23.00         |
|           |            | 1       | 74        | 22.43                   | 22.28      | 22.39        | 23.00         |
|           |            | 36      | 0         | 22.51                   | 22.40      | 22.36        | 23.00         |
|           |            | 36      | 18        | 22.45                   | 22.35      | 22.31        | 23.00         |
|           |            | 36      | 39        | 22.38                   | 22.41      | 22.26        | 23.00         |
|           |            | 75      | 0         | 22.60                   | 22.39      | 22.34        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.23                   | 22.41      | 22.29        | 23.00         |
|           |            | 1       | 38        | 22.30                   | 22.28      | 22.31        | 23.00         |
|           |            | 1       | 74        | 22.24                   | 22.42      | 22.26        | 23.00         |
|           |            | 36      | 0         | 21.56                   | 21.52      | 21.47        | 22.00         |



|           |            | 36      | 18        | 21.52                   | 21.52      | 21.48      | 22.00         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 36      | 39        | 21.49                   | 21.46      | 21.46      | 22.00         |
|           |            | 75      | 0         | 21.47                   | 21.56      | 21.51      | 22.00         |
|           | 64QAM      | 1       | 0         | 21.48                   | 21.66      | 21.62      | 22.00         |
|           |            | 1       | 38        | 21.70                   | 21.68      | 21.63      | 22.00         |
|           |            | 1       | 74        | 21.53                   | 21.71      | 21.64      | 22.00         |
|           |            | 36      | 0         | 20.69                   | 20.65      | 20.51      | 21.00         |
|           |            | 36      | 18        | 20.54                   | 20.54      | 20.50      | 21.00         |
|           |            | 36      | 39        | 20.59                   | 20.56      | 20.53      | 21.00         |
|           |            | 75      | 0         | 20.61                   | 20.63      | 20.61      | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 20850/2510              | 21100/2535 | 21350/2560 |               |
| 20MHz     | QPSK       | 1       | 0         | 22.33                   | 22.33      | 22.34      | 23.00         |
|           |            | 1       | 50        | 22.40                   | 22.23      | 22.22      | 23.00         |
|           |            | 1       | 99        | 22.41                   | 22.27      | 22.36      | 23.00         |
|           |            | 50      | 0         | 22.48                   | 22.35      | 22.32      | 23.00         |
|           |            | 50      | 25        | 22.43                   | 22.31      | 22.28      | 23.00         |
|           |            | 50      | 50        | 22.35                   | 22.36      | 22.22      | 23.00         |
|           |            | 100     | 0         | 22.57                   | 22.34      | 22.30      | 23.00         |
|           | 16QAM      | 1       | 0         | 22.21                   | 22.37      | 22.24      | 23.00         |
|           |            | 1       | 50        | 22.26                   | 22.26      | 22.27      | 23.00         |
|           |            | 1       | 99        | 22.22                   | 22.39      | 22.24      | 23.00         |
|           |            | 50      | 0         | 21.53                   | 21.48      | 21.44      | 22.00         |
|           |            | 50      | 25        | 21.49                   | 21.50      | 21.45      | 22.00         |
|           |            | 50      | 50        | 21.46                   | 21.41      | 21.42      | 22.00         |
|           |            | 100     | 0         | 21.45                   | 21.52      | 21.48      | 22.00         |
|           | 64QAM      | 1       | 0         | 21.46                   | 21.62      | 21.57      | 22.00         |
|           |            | 1       | 50        | 21.66                   | 21.66      | 21.59      | 22.00         |
|           |            | 1       | 99        | 21.51                   | 21.68      | 21.62      | 22.00         |
|           |            | 50      | 0         | 20.66                   | 20.61      | 20.48      | 21.00         |
|           |            | 50      | 25        | 20.51                   | 20.52      | 20.47      | 21.00         |
|           |            | 50      | 50        | 20.56                   | 20.51      | 20.49      | 21.00         |
|           |            | 100     | 0         | 20.59                   | 20.59      | 20.58      | 21.00         |

| LTE FDD Band 7<br>(Hotspot Off+Sensor On) |            |         |           | Conducted Power(dBm)    |            |              |               |
|-------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                 | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                           |            |         |           | 20775/2502.5            | 21100/2535 | 21425/2567.5 |               |
| 5MHz                                      | QPSK       | 1       | 0         | 22.01                   | 21.96      | 21.83        | 22.50         |
|                                           |            | 1       | 13        | 21.86                   | 21.91      | 21.75        | 22.50         |
|                                           |            | 1       | 24        | 22.01                   | 21.81      | 21.91        | 22.50         |
|                                           |            | 12      | 0         | 21.95                   | 21.91      | 21.83        | 22.50         |
|                                           |            | 12      | 6         | 21.89                   | 21.87      | 21.84        | 22.50         |



|           |            | 12      | 13        | 21.93                   | 21.93      | 21.91        | 22.50         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 25      | 0         | 21.87                   | 21.93      | 21.91        | 22.50         |
|           | 16QAM      | 1       | 0         | 22.03                   | 21.68      | 21.91        | 22.50         |
|           |            | 1       | 13        | 21.89                   | 21.95      | 21.81        | 22.50         |
|           |            | 1       | 24        | 21.90                   | 21.81      | 21.79        | 22.50         |
|           |            | 12      | 0         | 21.42                   | 21.28      | 21.30        | 22.00         |
|           |            | 12      | 6         | 21.37                   | 21.38      | 21.21        | 22.00         |
|           |            | 12      | 13        | 21.40                   | 21.32      | 21.26        | 22.00         |
|           |            | 25      | 0         | 21.38                   | 21.42      | 21.23        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.63                   | 21.20      | 21.45        | 22.00         |
|           |            | 1       | 13        | 21.54                   | 21.14      | 21.25        | 22.00         |
|           |            | 1       | 24        | 21.59                   | 21.24      | 21.35        | 22.00         |
|           |            | 12      | 0         | 20.59                   | 20.49      | 20.38        | 21.00         |
|           |            | 12      | 6         | 20.57                   | 20.59      | 20.39        | 21.00         |
|           |            | 12      | 13        | 20.57                   | 20.59      | 20.50        | 21.00         |
|           |            | 25      | 0         | 20.56                   | 20.56      | 20.58        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20800/2505              | 21100/2535 | 21400/2565   |               |
| 10MHz     | QPSK       | 1       | 0         | 22.03                   | 21.97      | 21.86        | 22.50         |
|           |            | 1       | 25        | 21.89                   | 21.96      | 21.79        | 22.50         |
|           |            | 1       | 49        | 22.03                   | 21.85      | 21.94        | 22.50         |
|           |            | 25      | 0         | 21.98                   | 21.96      | 21.87        | 22.50         |
|           |            | 25      | 13        | 21.92                   | 21.92      | 21.88        | 22.50         |
|           |            | 25      | 25        | 21.95                   | 21.97      | 21.96        | 22.50         |
|           |            | 50      | 0         | 21.95                   | 21.95      | 21.95        | 22.50         |
|           | 16QAM      | 1       | 0         | 22.05                   | 21.71      | 21.93        | 22.50         |
|           |            | 1       | 25        | 21.92                   | 21.99      | 21.84        | 22.50         |
|           |            | 1       | 49        | 21.93                   | 21.83      | 21.82        | 22.50         |
|           |            | 25      | 0         | 21.45                   | 21.33      | 21.34        | 22.00         |
|           |            | 25      | 13        | 21.39                   | 21.42      | 21.24        | 22.00         |
|           |            | 25      | 25        | 21.43                   | 21.37      | 21.30        | 22.00         |
|           |            | 50      | 0         | 21.41                   | 21.47      | 21.27        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.65                   | 21.23      | 21.47        | 22.00         |
|           |            | 1       | 25        | 21.57                   | 21.18      | 21.28        | 22.00         |
|           |            | 1       | 49        | 21.62                   | 21.26      | 21.38        | 22.00         |
|           |            | 25      | 0         | 20.62                   | 20.54      | 20.42        | 21.00         |
|           |            | 25      | 13        | 20.59                   | 20.63      | 20.42        | 21.00         |
|           |            | 25      | 25        | 20.60                   | 20.64      | 20.54        | 21.00         |
|           |            | 50      | 0         | 20.59                   | 20.61      | 20.62        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20825/2507.5            | 21100/2535 | 21375/2562.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 22.02                   | 21.93      | 21.84        | 22.50         |
|           |            | 1       | 38        | 21.87                   | 21.95      | 21.76        | 22.50         |



|           |            | 1       | 74        | 22.00                   | 21.80      | 21.90      | 22.50         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 36      | 0         | 21.96                   | 21.92      | 21.84      | 22.50         |
|           |            | 36      | 18        | 21.89                   | 21.87      | 21.84      | 22.50         |
|           |            | 36      | 39        | 21.92                   | 21.94      | 21.92      | 22.50         |
|           |            | 75      | 0         | 21.93                   | 21.91      | 21.90      | 22.50         |
|           | 16QAM      | 1       | 0         | 22.00                   | 21.69      | 21.91      | 22.50         |
|           |            | 1       | 38        | 21.90                   | 21.96      | 21.82      | 22.50         |
|           |            | 1       | 74        | 21.90                   | 21.79      | 21.79      | 22.50         |
|           |            | 36      | 0         | 21.42                   | 21.31      | 21.31      | 22.00         |
|           |            | 36      | 18        | 21.36                   | 21.37      | 21.20      | 22.00         |
|           |            | 36      | 39        | 21.41                   | 21.33      | 21.27      | 22.00         |
|           |            | 75      | 0         | 21.38                   | 21.42      | 21.23      | 22.00         |
|           | 64QAM      | 1       | 0         | 21.60                   | 21.21      | 21.45      | 22.00         |
|           |            | 1       | 38        | 21.55                   | 21.15      | 21.26      | 22.00         |
|           |            | 1       | 74        | 21.59                   | 21.22      | 21.35      | 22.00         |
|           |            | 36      | 0         | 20.59                   | 20.52      | 20.39      | 21.00         |
|           |            | 36      | 18        | 20.56                   | 20.58      | 20.38      | 21.00         |
|           |            | 36      | 39        | 20.58                   | 20.60      | 20.51      | 21.00         |
|           |            | 75      | 0         | 20.56                   | 20.56      | 20.58      | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 20850/2510              | 21100/2535 | 21350/2560 |               |
| 20MHz     | QPSK       | 1       | 0         | 21.99                   | 21.89      | 21.81      | 22.50         |
|           |            | 1       | 50        | 21.86                   | 21.91      | 21.74      | 22.50         |
|           |            | 1       | 99        | 21.98                   | 21.79      | 21.87      | 22.50         |
|           |            | 50      | 0         | 21.93                   | 21.87      | 21.80      | 22.50         |
|           |            | 50      | 25        | 21.87                   | 21.83      | 21.81      | 22.50         |
|           |            | 50      | 50        | 21.89                   | 21.89      | 21.88      | 22.50         |
|           |            | 100     | 0         | 21.90                   | 21.86      | 21.86      | 22.50         |
|           | 16QAM      | 1       | 0         | 21.98                   | 21.65      | 21.86      | 22.50         |
|           |            | 1       | 50        | 21.86                   | 21.94      | 21.78      | 22.50         |
|           |            | 1       | 99        | 21.88                   | 21.76      | 21.77      | 22.50         |
|           |            | 50      | 0         | 21.39                   | 21.27      | 21.28      | 22.00         |
|           |            | 50      | 25        | 21.33                   | 21.35      | 21.17      | 22.00         |
|           |            | 50      | 50        | 21.38                   | 21.28      | 21.23      | 22.00         |
|           |            | 100     | 0         | 21.36                   | 21.38      | 21.20      | 22.00         |
|           | 64QAM      | 1       | 0         | 21.58                   | 21.17      | 21.40      | 22.00         |
|           |            | 1       | 50        | 21.51                   | 21.13      | 21.22      | 22.00         |
|           |            | 1       | 99        | 21.57                   | 21.19      | 21.33      | 22.00         |
|           |            | 50      | 0         | 20.56                   | 20.48      | 20.36      | 21.00         |
|           |            | 50      | 25        | 20.53                   | 20.56      | 20.35      | 21.00         |
|           |            | 50      | 50        | 20.55                   | 20.55      | 20.47      | 21.00         |
|           |            | 100     | 0         | 20.54                   | 20.52      | 20.55      | 21.00         |



| LTE FDD Band 12<br>(REC On/Off) |            |         |           | Conducted Power(dBm)    |             |             |                  |
|---------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|------------------|
| Bandwidth                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                 |            |         |           | 23017/699.7             | 23095/707.5 | 23173/715.3 |                  |
| 1.4MHz                          | QPSK       | 1       | 0         | 23.44                   | 23.50       | 23.50       | 24.00            |
|                                 |            | 1       | 2         | 23.36                   | 23.47       | 23.56       | 24.00            |
|                                 |            | 1       | 5         | 23.48                   | 23.56       | 23.56       | 24.00            |
|                                 |            | 3       | 0         | 23.48                   | 23.56       | 23.51       | 24.00            |
|                                 |            | 3       | 2         | 23.50                   | 23.62       | 23.62       | 24.00            |
|                                 |            | 3       | 3         | 23.59                   | 23.52       | 23.59       | 24.00            |
|                                 |            | 6       | 0         | 22.42                   | 22.63       | 22.59       | 23.00            |
|                                 | 16QAM      | 1       | 0         | 22.62                   | 22.85       | 22.85       | 23.00            |
|                                 |            | 1       | 2         | 22.59                   | 22.63       | 23.00       | 23.00            |
|                                 |            | 1       | 5         | 22.62                   | 22.91       | 22.94       | 23.00            |
|                                 |            | 3       | 0         | 22.39                   | 22.43       | 22.44       | 23.00            |
|                                 |            | 3       | 2         | 22.52                   | 22.43       | 22.52       | 23.00            |
|                                 |            | 3       | 3         | 22.49                   | 22.43       | 22.49       | 23.00            |
|                                 |            | 6       | 0         | 21.49                   | 21.51       | 21.62       | 22.00            |
|                                 | 64QAM      | 1       | 0         | 22.14                   | 22.22       | 22.14       | 22.50            |
|                                 |            | 1       | 2         | 22.28                   | 21.99       | 22.15       | 22.50            |
|                                 |            | 1       | 5         | 22.19                   | 22.22       | 22.14       | 22.50            |
|                                 |            | 3       | 0         | 21.60                   | 21.55       | 21.57       | 22.50            |
|                                 |            | 3       | 2         | 21.54                   | 21.62       | 21.62       | 22.50            |
|                                 |            | 3       | 3         | 21.60                   | 21.68       | 21.68       | 22.50            |
|                                 |            | 6       | 0         | 20.68                   | 20.71       | 20.76       | 21.00            |
| Bandwidth                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                 |            |         |           | 23025/700.5             | 23095/707.5 | 23165/714.5 |                  |
| 3MHz                            | QPSK       | 1       | 0         | 23.45                   | 23.53       | 23.52       | 24.00            |
|                                 |            | 1       | 7         | 23.40                   | 23.53       | 23.61       | 24.00            |
|                                 |            | 1       | 14        | 23.50                   | 23.60       | 23.59       | 24.00            |
|                                 |            | 8       | 0         | 22.58                   | 22.68       | 22.64       | 23.00            |
|                                 |            | 8       | 4         | 22.63                   | 22.73       | 22.73       | 23.00            |
|                                 |            | 8       | 7         | 22.69                   | 22.65       | 22.70       | 23.00            |
|                                 |            | 15      | 0         | 22.51                   | 22.68       | 22.64       | 23.00            |
|                                 | 16QAM      | 1       | 0         | 22.64                   | 22.86       | 22.87       | 23.00            |
|                                 |            | 1       | 7         | 22.62                   | 22.70       | 22.84       | 23.00            |
|                                 |            | 1       | 14        | 22.64                   | 22.95       | 22.96       | 23.00            |
|                                 |            | 8       | 0         | 21.51                   | 21.57       | 21.57       | 22.00            |
|                                 |            | 8       | 4         | 21.62                   | 21.55       | 21.63       | 22.00            |
|                                 |            | 8       | 7         | 21.59                   | 21.55       | 21.62       | 22.00            |
|                                 |            | 15      | 0         | 21.53                   | 21.56       | 21.64       | 22.00            |
|                                 | 64QAM      | 1       | 0         | 22.16                   | 22.23       | 22.16       | 22.50            |
|                                 |            | 1       | 7         | 22.31                   | 22.06       | 22.19       | 22.50            |



|           |            | 1       | 14        | 22.21                   | 22.26       | 22.16       | 22.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 8       | 0         | 20.72                   | 20.69       | 20.70       | 21.00         |
|           |            | 8       | 4         | 20.64                   | 20.74       | 20.73       | 21.00         |
|           |            | 8       | 7         | 20.70                   | 20.80       | 20.81       | 21.00         |
|           |            | 15      | 0         | 20.72                   | 20.76       | 20.78       | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 23035/701.5             | 23095/707.5 | 23155/713.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 23.44                   | 23.49       | 23.50       | 24.00         |
|           |            | 1       | 13        | 23.38                   | 23.52       | 23.58       | 24.00         |
|           |            | 1       | 24        | 23.47                   | 23.55       | 23.55       | 24.00         |
|           |            | 12      | 0         | 22.56                   | 22.64       | 22.61       | 23.00         |
|           |            | 12      | 6         | 22.60                   | 22.68       | 22.69       | 23.00         |
|           |            | 12      | 13        | 22.66                   | 22.62       | 22.66       | 23.00         |
|           |            | 25      | 0         | 22.49                   | 22.64       | 22.59       | 23.00         |
|           | 16QAM      | 1       | 0         | 22.59                   | 22.84       | 22.85       | 23.00         |
|           |            | 1       | 13        | 22.60                   | 22.67       | 22.82       | 23.00         |
|           |            | 1       | 24        | 22.61                   | 22.91       | 22.93       | 23.00         |
|           |            | 12      | 0         | 21.48                   | 21.55       | 21.54       | 22.00         |
|           |            | 12      | 6         | 21.59                   | 21.50       | 21.59       | 22.00         |
|           |            | 12      | 13        | 21.57                   | 21.51       | 21.59       | 22.00         |
|           |            | 25      | 0         | 21.50                   | 21.51       | 21.60       | 22.00         |
|           | 64QAM      | 1       | 0         | 22.11                   | 22.21       | 22.14       | 22.50         |
|           |            | 1       | 13        | 22.29                   | 22.03       | 22.17       | 22.50         |
|           |            | 1       | 24        | 22.18                   | 22.22       | 22.13       | 22.50         |
|           |            | 12      | 0         | 20.69                   | 20.67       | 20.67       | 21.00         |
|           |            | 12      | 6         | 20.61                   | 20.69       | 20.69       | 21.00         |
|           |            | 12      | 13        | 20.68                   | 20.76       | 20.78       | 21.00         |
|           |            | 25      | 0         | 20.69                   | 20.71       | 20.74       | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 23060/704               | 23095/707.5 | 23130/711   |               |
| 10MHz     | QPSK       | 1       | 0         | 23.41                   | 23.45       | 23.47       | 24.00         |
|           |            | 1       | 25        | 23.37                   | 23.48       | 23.56       | 24.00         |
|           |            | 1       | 49        | 23.45                   | 23.54       | 23.52       | 24.00         |
|           |            | 25      | 0         | 22.53                   | 22.59       | 22.57       | 23.00         |
|           |            | 25      | 13        | 22.58                   | 22.64       | 22.66       | 23.00         |
|           |            | 25      | 25        | 22.63                   | 22.57       | 22.62       | 23.00         |
|           |            | 50      | 0         | 22.46                   | 22.59       | 22.55       | 23.00         |
|           | 16QAM      | 1       | 0         | 22.57                   | 22.80       | 22.80       | 23.00         |
|           |            | 1       | 25        | 22.56                   | 22.65       | 22.88       | 23.00         |
|           |            | 1       | 49        | 22.59                   | 22.88       | 22.91       | 23.00         |
|           |            | 25      | 0         | 21.45                   | 21.51       | 21.51       | 22.00         |
|           |            | 25      | 13        | 21.56                   | 21.48       | 21.56       | 22.00         |
|           |            | 25      | 25        | 21.54                   | 21.46       | 21.55       | 22.00         |





|  |       |    |    |       |       |       |       |
|--|-------|----|----|-------|-------|-------|-------|
|  | 64QAM | 50 | 0  | 21.48 | 21.47 | 21.57 | 22.00 |
|  |       | 1  | 0  | 22.09 | 22.17 | 22.09 | 22.50 |
|  |       | 1  | 25 | 22.25 | 22.01 | 22.13 | 22.50 |
|  |       | 1  | 49 | 22.16 | 22.19 | 22.11 | 22.50 |
|  |       | 25 | 0  | 20.66 | 20.63 | 20.64 | 21.00 |
|  |       | 25 | 13 | 20.58 | 20.67 | 20.66 | 21.00 |
|  |       | 25 | 25 | 20.65 | 20.71 | 20.74 | 21.00 |
|  |       | 50 | 0  | 20.67 | 20.67 | 20.71 | 21.00 |

| LTE FDD Band 17<br>(REC On/Off) |            |         |           | Conducted Power(dBm)    |           |             |               |
|---------------------------------|------------|---------|-----------|-------------------------|-----------|-------------|---------------|
| Bandwidth                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |             | Tune-up Limit |
|                                 |            |         |           | 23755/706.5             | 23790/710 | 23825/713.5 |               |
| 5MHz                            | QPSK       | 1       | 0         | 23.57                   | 23.48     | 23.35       | 24.00         |
|                                 |            | 1       | 13        | 23.42                   | 23.56     | 23.41       | 24.00         |
|                                 |            | 1       | 24        | 23.48                   | 23.47     | 23.53       | 24.00         |
|                                 |            | 12      | 0         | 22.60                   | 22.69     | 22.59       | 23.00         |
|                                 |            | 12      | 6         | 22.53                   | 22.65     | 22.61       | 23.00         |
|                                 |            | 12      | 13        | 22.58                   | 22.56     | 22.58       | 23.00         |
|                                 |            | 25      | 0         | 22.54                   | 22.68     | 22.69       | 23.00         |
|                                 | 16QAM      | 1       | 0         | 22.63                   | 22.64     | 22.69       | 23.00         |
|                                 |            | 1       | 13        | 22.50                   | 22.41     | 21.50       | 23.00         |
|                                 |            | 1       | 24        | 22.68                   | 22.51     | 22.64       | 23.00         |
|                                 |            | 12      | 0         | 21.56                   | 21.63     | 21.56       | 22.00         |
|                                 |            | 12      | 6         | 21.55                   | 21.59     | 21.55       | 22.00         |
|                                 |            | 12      | 13        | 21.59                   | 21.65     | 21.60       | 22.00         |
|                                 |            | 25      | 0         | 21.51                   | 21.51     | 21.56       | 22.00         |
|                                 | 64QAM      | 1       | 0         | 21.57                   | 21.55     | 21.71       | 22.00         |
|                                 |            | 1       | 13        | 21.91                   | 21.76     | 21.79       | 22.00         |
|                                 |            | 1       | 24        | 21.68                   | 21.71     | 21.84       | 22.00         |
|                                 |            | 12      | 0         | 20.79                   | 20.83     | 20.74       | 21.00         |
|                                 |            | 12      | 6         | 20.76                   | 20.85     | 20.60       | 21.00         |
|                                 |            | 12      | 13        | 20.69                   | 20.77     | 20.64       | 21.00         |
|                                 |            | 25      | 0         | 20.69                   | 20.75     | 20.78       | 21.00         |
| Bandwidth                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |             | Tune-up Limit |
|                                 |            |         |           | 23780/709               | 23790/710 | 23800/711   |               |
| 10MHz                           | QPSK       | 1       | 0         | 23.54                   | 23.44     | 23.32       | 24.00         |
|                                 |            | 1       | 25        | 23.41                   | 23.52     | 23.39       | 24.00         |
|                                 |            | 1       | 49        | 23.46                   | 23.46     | 23.50       | 24.00         |
|                                 |            | 25      | 0         | 22.57                   | 22.64     | 22.55       | 23.00         |
|                                 |            | 25      | 13        | 22.51                   | 22.61     | 22.58       | 23.00         |
|                                 |            | 25      | 25        | 22.55                   | 22.51     | 22.54       | 23.00         |
|                                 |            | 50      | 0         | 22.51                   | 22.63     | 22.65       | 23.00         |



|  |       |    |    |       |       |       |       |
|--|-------|----|----|-------|-------|-------|-------|
|  | 16QAM | 1  | 0  | 22.61 | 22.60 | 22.64 | 23.00 |
|  |       | 1  | 25 | 22.46 | 22.39 | 21.46 | 23.00 |
|  |       | 1  | 49 | 22.66 | 22.48 | 22.62 | 23.00 |
|  |       | 25 | 0  | 21.53 | 21.59 | 21.53 | 22.00 |
|  |       | 25 | 13 | 21.52 | 21.57 | 21.52 | 22.00 |
|  |       | 25 | 25 | 21.56 | 21.60 | 21.56 | 22.00 |
|  |       | 50 | 0  | 21.49 | 21.47 | 21.53 | 22.00 |
|  | 64QAM | 1  | 0  | 21.55 | 21.51 | 21.66 | 22.00 |
|  |       | 1  | 25 | 21.97 | 21.74 | 21.75 | 22.00 |
|  |       | 1  | 49 | 21.66 | 21.68 | 21.82 | 22.00 |
|  |       | 25 | 0  | 20.76 | 20.79 | 20.71 | 21.00 |
|  |       | 25 | 13 | 20.73 | 20.83 | 20.57 | 21.00 |
|  |       | 25 | 25 | 20.66 | 20.72 | 20.60 | 21.00 |
|  |       | 50 | 0  | 20.67 | 20.71 | 20.75 | 21.00 |

| LTE FDD Band 26<br>(REC On/Off) |            |         |           | Conducted Power(dBm)    |             |             |                  |
|---------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|------------------|
| Bandwidth                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                 |            |         |           | 26697/814.7             | 26865/831.5 | 27033/848.3 |                  |
| 1.4MHz                          | QPSK       | 1       | 0         | 23.09                   | 23.12       | 23.13       | 24.00            |
|                                 |            | 1       | 2         | 23.16                   | 23.15       | 23.12       | 24.00            |
|                                 |            | 1       | 5         | 23.10                   | 23.03       | 23.13       | 24.00            |
|                                 |            | 3       | 0         | 22.26                   | 22.23       | 22.24       | 23.00            |
|                                 |            | 3       | 2         | 22.16                   | 22.43       | 22.06       | 23.00            |
|                                 |            | 3       | 3         | 22.22                   | 22.15       | 22.08       | 23.00            |
|                                 |            | 6       | 0         | 22.06                   | 22.21       | 22.05       | 23.00            |
|                                 | 16QAM      | 1       | 0         | 22.22                   | 22.36       | 22.41       | 23.00            |
|                                 |            | 1       | 2         | 22.29                   | 22.33       | 22.33       | 23.00            |
|                                 |            | 1       | 5         | 22.23                   | 22.39       | 22.47       | 23.00            |
|                                 |            | 3       | 0         | 21.15                   | 21.25       | 21.28       | 22.00            |
|                                 |            | 3       | 2         | 21.10                   | 21.22       | 20.85       | 22.00            |
|                                 |            | 3       | 3         | 21.19                   | 21.08       | 20.98       | 22.00            |
|                                 |            | 6       | 0         | 21.05                   | 21.09       | 20.94       | 22.00            |
|                                 | 64QAM      | 1       | 0         | 21.51                   | 21.35       | 21.40       | 22.00            |
|                                 |            | 1       | 2         | 21.53                   | 21.48       | 21.48       | 22.00            |
|                                 |            | 1       | 5         | 21.53                   | 21.75       | 21.83       | 22.00            |
|                                 |            | 3       | 0         | 20.68                   | 20.62       | 20.65       | 21.00            |
|                                 |            | 3       | 2         | 20.55                   | 20.57       | 20.20       | 21.00            |
|                                 |            | 3       | 3         | 20.62                   | 20.68       | 20.58       | 21.00            |
|                                 |            | 6       | 0         | 20.59                   | 20.59       | 20.44       | 21.00            |
| Bandwidth                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                 |            |         |           | 26705/815.5             | 26865/831.5 | 27025/847.5 |                  |
| 3MHz                            | QPSK       | 1       | 0         | 23.06                   | 23.10       | 23.09       | 24.00            |



|           |            | 1       | 7         | 23.14                   | 23.11       | 23.09       | 24.00         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 1       | 14        | 23.07                   | 22.98       | 23.09       | 24.00         |
|           |            | 8       | 0         | 22.23                   | 22.18       | 22.20       | 23.00         |
|           |            | 8       | 4         | 22.14                   | 22.39       | 22.01       | 23.00         |
|           |            | 8       | 7         | 22.20                   | 22.13       | 22.04       | 23.00         |
|           |            | 15      | 0         | 22.04                   | 22.20       | 22.03       | 23.00         |
|           | 16QAM      | 1       | 0         | 22.19                   | 22.32       | 22.38       | 23.00         |
|           |            | 1       | 7         | 22.26                   | 22.31       | 22.30       | 23.00         |
|           |            | 1       | 14        | 22.20                   | 22.37       | 22.43       | 23.00         |
|           |            | 8       | 0         | 21.13                   | 21.21       | 21.25       | 22.00         |
|           |            | 8       | 4         | 21.07                   | 21.17       | 20.81       | 22.00         |
|           |            | 8       | 7         | 21.16                   | 21.03       | 20.94       | 22.00         |
|           |            | 15      | 0         | 21.03                   | 21.05       | 20.89       | 22.00         |
|           | 64QAM      | 1       | 0         | 21.48                   | 21.31       | 21.37       | 22.00         |
|           |            | 1       | 7         | 21.50                   | 21.46       | 21.45       | 22.00         |
|           |            | 1       | 14        | 21.50                   | 21.73       | 21.79       | 22.00         |
|           |            | 8       | 0         | 20.66                   | 20.58       | 20.62       | 21.00         |
|           |            | 8       | 4         | 20.52                   | 20.52       | 20.16       | 21.00         |
|           |            | 8       | 7         | 20.59                   | 20.63       | 20.54       | 21.00         |
|           |            | 15      | 0         | 20.57                   | 20.55       | 20.39       | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26715/816.5             | 26865/831.5 | 27015/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 23.08                   | 23.11       | 23.12       | 24.00         |
|           |            | 1       | 13        | 23.17                   | 23.16       | 23.13       | 24.00         |
|           |            | 1       | 24        | 23.09                   | 23.02       | 23.12       | 24.00         |
|           |            | 12      | 0         | 22.26                   | 22.23       | 22.24       | 23.00         |
|           |            | 12      | 6         | 22.17                   | 22.44       | 22.05       | 23.00         |
|           |            | 12      | 13        | 22.22                   | 22.17       | 22.09       | 23.00         |
|           |            | 25      | 0         | 22.12                   | 22.22       | 22.07       | 23.00         |
|           | 16QAM      | 1       | 0         | 22.21                   | 22.35       | 22.40       | 23.00         |
|           |            | 1       | 13        | 22.29                   | 22.35       | 22.33       | 23.00         |
|           |            | 1       | 24        | 22.23                   | 22.39       | 22.46       | 23.00         |
|           |            | 12      | 0         | 21.16                   | 21.26       | 21.29       | 22.00         |
|           |            | 12      | 6         | 21.09                   | 21.21       | 20.84       | 22.00         |
|           |            | 12      | 13        | 21.19                   | 21.08       | 20.98       | 22.00         |
|           |            | 25      | 0         | 21.06                   | 21.10       | 20.93       | 22.00         |
|           | 64QAM      | 1       | 0         | 21.50                   | 21.34       | 21.39       | 22.00         |
|           |            | 1       | 13        | 21.53                   | 21.50       | 21.48       | 22.00         |
|           |            | 1       | 24        | 21.53                   | 21.75       | 21.82       | 22.00         |
|           |            | 12      | 0         | 20.69                   | 20.63       | 20.66       | 21.00         |
|           |            | 12      | 6         | 20.54                   | 20.56       | 20.19       | 21.00         |
|           |            | 12      | 13        | 20.62                   | 20.68       | 20.58       | 21.00         |
|           |            | 25      | 0         | 20.60                   | 20.60       | 20.43       | 21.00         |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            |         |           | 26750/820               | 26865/831.5 | 26990/844   |               |
| 10MHz     | QPSK       | 1       | 0         | 23.07                   | 23.07       | 23.10       | 24.00         |
|           |            | 1       | 25        | 23.15                   | 23.15       | 23.10       | 24.00         |
|           |            | 1       | 49        | 23.06                   | 22.97       | 23.08       | 24.00         |
|           |            | 25      | 0         | 22.24                   | 22.19       | 22.21       | 23.00         |
|           |            | 25      | 13        | 22.14                   | 22.39       | 22.01       | 23.00         |
|           |            | 25      | 25        | 22.19                   | 22.14       | 22.05       | 23.00         |
|           |            | 50      | 0         | 22.10                   | 22.18       | 22.02       | 23.00         |
|           | 16QAM      | 1       | 0         | 22.16                   | 22.33       | 22.38       | 23.00         |
|           |            | 1       | 25        | 22.27                   | 22.32       | 22.31       | 23.00         |
|           |            | 1       | 49        | 22.20                   | 22.35       | 22.43       | 23.00         |
|           |            | 25      | 0         | 21.13                   | 21.24       | 21.26       | 22.00         |
|           |            | 25      | 13        | 21.06                   | 21.16       | 20.80       | 22.00         |
|           |            | 25      | 25        | 21.17                   | 21.04       | 20.95       | 22.00         |
|           |            | 50      | 0         | 21.03                   | 21.05       | 20.89       | 22.00         |
|           | 64QAM      | 1       | 0         | 21.45                   | 21.32       | 21.37       | 22.00         |
|           |            | 1       | 25        | 21.51                   | 21.47       | 21.46       | 22.00         |
|           |            | 1       | 49        | 21.50                   | 21.71       | 21.79       | 22.00         |
|           |            | 25      | 0         | 20.66                   | 20.61       | 20.63       | 21.00         |
|           |            | 25      | 13        | 20.51                   | 20.51       | 20.15       | 21.00         |
|           |            | 25      | 25        | 20.60                   | 20.64       | 20.55       | 21.00         |
|           |            | 50      | 0         | 20.57                   | 20.55       | 20.39       | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26775/822.5             | 26865/831.5 | 26965/841.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 23.04                   | 23.03       | 23.07       | 24.00         |
|           |            | 1       | 38        | 23.14                   | 23.11       | 23.08       | 24.00         |
|           |            | 1       | 74        | 23.04                   | 22.96       | 23.05       | 24.00         |
|           |            | 36      | 0         | 22.21                   | 22.14       | 22.17       | 23.00         |
|           |            | 36      | 18        | 22.12                   | 22.35       | 21.98       | 23.00         |
|           |            | 36      | 39        | 22.16                   | 22.09       | 22.01       | 23.00         |
|           |            | 75      | 0         | 22.07                   | 22.13       | 21.98       | 23.00         |
|           | 16QAM      | 1       | 0         | 22.14                   | 22.29       | 22.33       | 23.00         |
|           |            | 1       | 38        | 22.23                   | 22.30       | 22.27       | 23.00         |
|           |            | 1       | 74        | 22.18                   | 22.32       | 22.41       | 23.00         |
|           |            | 36      | 0         | 21.10                   | 21.20       | 21.23       | 22.00         |
|           |            | 36      | 18        | 21.03                   | 21.14       | 20.77       | 22.00         |
|           |            | 36      | 39        | 21.14                   | 20.99       | 20.91       | 22.00         |
|           |            | 75      | 0         | 21.01                   | 21.01       | 20.86       | 22.00         |
|           | 64QAM      | 1       | 0         | 21.43                   | 21.28       | 21.32       | 22.00         |
|           |            | 1       | 38        | 21.47                   | 21.45       | 21.42       | 22.00         |
|           |            | 1       | 74        | 21.48                   | 21.68       | 21.77       | 22.00         |



|  |  |    |    |       |       |       |       |
|--|--|----|----|-------|-------|-------|-------|
|  |  | 36 | 0  | 20.63 | 20.57 | 20.60 | 21.00 |
|  |  | 36 | 18 | 20.48 | 20.49 | 20.12 | 21.00 |
|  |  | 36 | 39 | 20.57 | 20.59 | 20.51 | 21.00 |
|  |  | 75 | 0  | 20.55 | 20.51 | 20.36 | 21.00 |

| LTE TDD Band 38<br>(REC On/Off) |            |         |           | Conducted Power(dBm)    |            |              |                  |
|---------------------------------|------------|---------|-----------|-------------------------|------------|--------------|------------------|
| Bandwidth                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                 |            |         |           | 37775/2572.5            | 38000/2595 | 38225/2617.5 |                  |
| 5MHz                            | QPSK       | 1       | 0         | 22.90                   | 22.99      | 23.09        | 24.00            |
|                                 |            | 1       | 13        | 23.02                   | 22.84      | 23.07        | 24.00            |
|                                 |            | 1       | 24        | 22.97                   | 23.03      | 23.14        | 24.00            |
|                                 |            | 12      | 0         | 22.14                   | 22.17      | 22.20        | 23.00            |
|                                 |            | 12      | 6         | 22.10                   | 22.18      | 22.15        | 23.00            |
|                                 |            | 12      | 13        | 22.14                   | 22.09      | 22.18        | 23.00            |
|                                 |            | 25      | 0         | 22.09                   | 22.14      | 22.16        | 23.00            |
|                                 | 16QAM      | 1       | 0         | 22.14                   | 22.11      | 22.02        | 23.00            |
|                                 |            | 1       | 13        | 22.35                   | 21.93      | 22.19        | 23.00            |
|                                 |            | 1       | 24        | 22.19                   | 22.26      | 22.29        | 23.00            |
|                                 |            | 12      | 0         | 20.99                   | 21.22      | 21.01        | 22.00            |
|                                 |            | 12      | 6         | 21.12                   | 21.04      | 20.99        | 22.00            |
|                                 |            | 12      | 13        | 21.08                   | 21.32      | 21.07        | 22.00            |
|                                 |            | 25      | 0         | 20.99                   | 21.13      | 21.09        | 22.00            |
|                                 | 64QAM      | 1       | 0         | 21.93                   | 22.02      | 22.02        | 22.50            |
|                                 |            | 1       | 13        | 21.57                   | 21.85      | 22.19        | 22.50            |
|                                 |            | 1       | 24        | 22.09                   | 22.25      | 22.29        | 22.50            |
|                                 |            | 12      | 0         | 20.50                   | 20.52      | 20.51        | 21.00            |
|                                 |            | 12      | 6         | 20.53                   | 20.38      | 20.49        | 21.00            |
|                                 |            | 12      | 13        | 20.59                   | 20.55      | 20.57        | 21.00            |
|                                 |            | 25      | 0         | 20.46                   | 20.54      | 20.59        | 21.00            |
| Bandwidth                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                 |            |         |           | 37800/2575              | 38000/2595 | 38200/2615   |                  |
| 10MHz                           | QPSK       | 1       | 0         | 22.92                   | 23.00      | 23.12        | 24.00            |
|                                 |            | 1       | 25        | 23.05                   | 22.89      | 23.11        | 24.00            |
|                                 |            | 1       | 49        | 22.99                   | 23.07      | 23.17        | 24.00            |
|                                 |            | 25      | 0         | 22.17                   | 22.22      | 22.24        | 23.00            |
|                                 |            | 25      | 13        | 22.13                   | 22.23      | 22.19        | 23.00            |
|                                 |            | 25      | 25        | 22.16                   | 22.13      | 22.23        | 23.00            |
|                                 |            | 50      | 0         | 22.17                   | 22.16      | 22.20        | 23.00            |
|                                 | 16QAM      | 1       | 0         | 22.16                   | 22.14      | 22.04        | 23.00            |
|                                 |            | 1       | 25        | 22.38                   | 21.97      | 22.22        | 23.00            |
|                                 |            | 1       | 49        | 22.22                   | 22.28      | 22.32        | 23.00            |
|                                 |            | 25      | 0         | 21.02                   | 21.27      | 21.05        | 22.00            |



|           |            | 25      | 13        | 21.14                   | 21.08      | 21.02        | 22.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 25      | 25        | 21.11                   | 21.37      | 21.11        | 22.00         |
|           |            | 50      | 0         | 21.02                   | 21.18      | 21.13        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.95                   | 22.05      | 22.04        | 22.50         |
|           |            | 1       | 25        | 21.60                   | 21.89      | 22.22        | 22.50         |
|           |            | 1       | 49        | 22.12                   | 22.27      | 22.32        | 22.50         |
|           |            | 25      | 0         | 20.53                   | 20.57      | 20.55        | 21.00         |
|           |            | 25      | 13        | 20.55                   | 20.42      | 20.52        | 21.00         |
|           |            | 25      | 25        | 20.62                   | 20.60      | 20.61        | 21.00         |
|           |            | 50      | 0         | 20.49                   | 20.59      | 20.63        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 37825/2577.5            | 38000/2595 | 38175/2612.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 22.91                   | 22.96      | 23.10        | 24.00         |
|           |            | 1       | 38        | 23.03                   | 22.88      | 23.08        | 24.00         |
|           |            | 1       | 74        | 22.96                   | 23.02      | 23.13        | 24.00         |
|           |            | 36      | 0         | 22.15                   | 22.18      | 22.21        | 23.00         |
|           |            | 36      | 18        | 22.10                   | 22.18      | 22.15        | 23.00         |
|           |            | 36      | 39        | 22.13                   | 22.10      | 22.19        | 23.00         |
|           |            | 75      | 0         | 22.15                   | 22.12      | 22.15        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.11                   | 22.12      | 22.02        | 23.00         |
|           |            | 1       | 38        | 22.36                   | 21.94      | 22.20        | 23.00         |
|           |            | 1       | 74        | 22.19                   | 22.24      | 22.29        | 23.00         |
|           |            | 36      | 0         | 20.99                   | 21.25      | 21.02        | 22.00         |
|           |            | 36      | 18        | 21.11                   | 21.03      | 20.98        | 22.00         |
|           |            | 36      | 39        | 21.09                   | 21.33      | 21.08        | 22.00         |
|           |            | 75      | 0         | 20.99                   | 21.13      | 21.09        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.90                   | 22.03      | 22.02        | 22.50         |
|           |            | 1       | 38        | 21.58                   | 21.86      | 22.20        | 22.50         |
|           |            | 1       | 74        | 22.09                   | 22.23      | 22.29        | 22.50         |
|           |            | 36      | 0         | 20.50                   | 20.55      | 20.52        | 21.00         |
|           |            | 36      | 18        | 20.52                   | 20.37      | 20.48        | 21.00         |
|           |            | 36      | 39        | 20.60                   | 20.56      | 20.58        | 21.00         |
|           |            | 75      | 0         | 20.46                   | 20.54      | 20.59        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 37850/2580              | 38000/2595 | 38150/2610   |               |
| 20MHz     | QPSK       | 1       | 0         | 22.88                   | 22.92      | 23.07        | 24.00         |
|           |            | 1       | 50        | 23.02                   | 22.84      | 23.06        | 24.00         |
|           |            | 1       | 99        | 22.94                   | 23.01      | 23.10        | 24.00         |
|           |            | 50      | 0         | 22.12                   | 22.13      | 22.17        | 23.00         |
|           |            | 50      | 25        | 22.08                   | 22.14      | 22.12        | 23.00         |
|           |            | 50      | 50        | 22.10                   | 22.05      | 22.15        | 23.00         |
|           |            | 100     | 0         | 22.12                   | 22.07      | 22.11        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.09                   | 22.08      | 21.97        | 23.00         |



|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  |       | 1   | 50 | 22.32 | 21.92 | 22.16 | 23.00 |
|  |       | 1   | 99 | 22.17 | 22.21 | 22.27 | 23.00 |
|  |       | 50  | 0  | 20.96 | 21.21 | 20.99 | 22.00 |
|  |       | 50  | 25 | 21.08 | 21.01 | 20.95 | 22.00 |
|  |       | 50  | 50 | 21.06 | 21.28 | 21.04 | 22.00 |
|  |       | 100 | 0  | 20.97 | 21.09 | 21.06 | 22.00 |
|  | 64QAM | 1   | 0  | 21.88 | 21.99 | 21.97 | 22.50 |
|  |       | 1   | 50 | 21.54 | 21.84 | 22.16 | 22.50 |
|  |       | 1   | 99 | 22.07 | 22.20 | 22.27 | 22.50 |
|  |       | 50  | 0  | 20.47 | 20.51 | 20.49 | 21.00 |
|  |       | 50  | 25 | 20.49 | 20.35 | 20.45 | 21.00 |
|  |       | 50  | 50 | 20.57 | 20.51 | 20.54 | 21.00 |
|  |       | 100 | 0  | 20.44 | 20.50 | 20.56 | 21.00 |

| LTE TDD Band 41<br>(REC On/Off) |            |         |           | Conducted Power(dBm)    |            |              |                  |
|---------------------------------|------------|---------|-----------|-------------------------|------------|--------------|------------------|
| Bandwidth                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                 |            |         |           | 40165/2547.5            | 40690/2600 | 41215/2652.5 |                  |
| 5MHz                            | QPSK       | 1       | 0         | 23.19                   | 23.12      | 23.19        | 24.00            |
|                                 |            | 1       | 13        | 23.01                   | 23.07      | 23.22        | 24.00            |
|                                 |            | 1       | 24        | 23.16                   | 23.21      | 23.37        | 24.00            |
|                                 |            | 12      | 0         | 22.19                   | 22.10      | 22.34        | 23.00            |
|                                 |            | 12      | 6         | 22.09                   | 22.15      | 22.37        | 23.00            |
|                                 |            | 12      | 13        | 22.22                   | 22.42      | 22.35        | 23.00            |
|                                 |            | 25      | 0         | 21.97                   | 22.21      | 22.31        | 23.00            |
|                                 | 16QAM      | 1       | 0         | 22.39                   | 22.39      | 22.17        | 23.00            |
|                                 |            | 1       | 13        | 21.87                   | 21.95      | 22.12        | 23.00            |
|                                 |            | 1       | 24        | 22.25                   | 22.17      | 22.36        | 23.00            |
|                                 |            | 12      | 0         | 21.17                   | 21.08      | 21.21        | 22.00            |
|                                 |            | 12      | 6         | 21.11                   | 21.04      | 21.21        | 22.00            |
|                                 |            | 12      | 13        | 21.07                   | 21.12      | 21.26        | 22.00            |
|                                 |            | 25      | 0         | 21.12                   | 21.13      | 21.24        | 22.00            |
|                                 | 64QAM      | 1       | 0         | 22.06                   | 22.06      | 22.03        | 22.50            |
|                                 |            | 1       | 13        | 21.21                   | 21.29      | 21.91        | 22.50            |
|                                 |            | 1       | 24        | 21.86                   | 21.78      | 21.94        | 22.50            |
|                                 |            | 12      | 0         | 20.66                   | 20.57      | 20.79        | 21.00            |
|                                 |            | 12      | 6         | 20.64                   | 20.57      | 20.72        | 21.00            |
|                                 |            | 12      | 13        | 20.59                   | 20.64      | 20.65        | 21.00            |
|                                 |            | 25      | 0         | 20.54                   | 20.55      | 20.70        | 21.00            |
| Bandwidth                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                 |            |         |           | 40190/2550              | 40690/2600 | 41190/2650   |                  |
| 10MHz                           | QPSK       | 1       | 0         | 23.21                   | 23.13      | 23.22        | 24.00            |
|                                 |            | 1       | 25        | 23.04                   | 23.12      | 23.26        | 24.00            |



|           |            | 1       | 49        | 23.18                   | 23.25      | 23.40        | 24.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 25      | 0         | 22.22                   | 22.15      | 22.38        | 23.00         |
|           |            | 25      | 13        | 22.12                   | 22.20      | 22.41        | 23.00         |
|           |            | 25      | 25        | 22.24                   | 22.46      | 22.40        | 23.00         |
|           |            | 50      | 0         | 22.05                   | 22.23      | 22.35        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.41                   | 22.42      | 22.19        | 23.00         |
|           |            | 1       | 25        | 21.90                   | 21.99      | 22.15        | 23.00         |
|           |            | 1       | 49        | 22.28                   | 22.19      | 22.39        | 23.00         |
|           |            | 25      | 0         | 21.20                   | 21.13      | 21.25        | 22.00         |
|           |            | 25      | 13        | 21.13                   | 21.08      | 21.24        | 22.00         |
|           |            | 25      | 25        | 21.10                   | 21.17      | 21.30        | 22.00         |
|           |            | 50      | 0         | 21.15                   | 21.18      | 21.28        | 22.00         |
|           | 64QAM      | 1       | 0         | 22.08                   | 22.09      | 22.05        | 22.50         |
|           |            | 1       | 25        | 21.24                   | 21.33      | 21.94        | 22.50         |
|           |            | 1       | 49        | 21.89                   | 21.80      | 21.97        | 22.50         |
|           |            | 25      | 0         | 20.69                   | 20.62      | 20.83        | 21.00         |
|           |            | 25      | 13        | 20.66                   | 20.61      | 20.75        | 21.00         |
|           |            | 25      | 25        | 20.62                   | 20.69      | 20.69        | 21.00         |
|           |            | 50      | 0         | 20.57                   | 20.60      | 20.74        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 40215/2552.5            | 40690/2600 | 41165/2647.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 23.20                   | 23.09      | 23.20        | 24.00         |
|           |            | 1       | 38        | 23.02                   | 23.11      | 23.23        | 24.00         |
|           |            | 1       | 74        | 23.15                   | 23.20      | 23.36        | 24.00         |
|           |            | 36      | 0         | 22.20                   | 22.11      | 22.35        | 23.00         |
|           |            | 36      | 18        | 22.09                   | 22.15      | 22.37        | 23.00         |
|           |            | 36      | 39        | 22.21                   | 22.43      | 22.36        | 23.00         |
|           |            | 75      | 0         | 22.03                   | 22.19      | 22.30        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.36                   | 22.40      | 22.17        | 23.00         |
|           |            | 1       | 38        | 21.88                   | 21.96      | 22.13        | 23.00         |
|           |            | 1       | 74        | 22.25                   | 22.15      | 22.36        | 23.00         |
|           |            | 36      | 0         | 21.17                   | 21.11      | 21.22        | 22.00         |
|           |            | 36      | 18        | 21.10                   | 21.03      | 21.20        | 22.00         |
|           |            | 36      | 39        | 21.08                   | 21.13      | 21.27        | 22.00         |
|           |            | 75      | 0         | 21.12                   | 21.13      | 21.24        | 22.00         |
|           | 64QAM      | 1       | 0         | 22.03                   | 22.07      | 22.03        | 22.50         |
|           |            | 1       | 38        | 21.22                   | 21.30      | 21.92        | 22.50         |
|           |            | 1       | 74        | 21.86                   | 21.76      | 21.94        | 22.50         |
|           |            | 36      | 0         | 20.66                   | 20.60      | 20.80        | 21.00         |
|           |            | 36      | 18        | 20.63                   | 20.56      | 20.71        | 21.00         |
|           |            | 36      | 39        | 20.60                   | 20.65      | 20.66        | 21.00         |
|           |            | 75      | 0         | 20.54                   | 20.55      | 20.70        | 21.00         |





| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            |         |           | 40240/2555              | 40690/2600 | 41140/2645 |               |
| 20MHz     | QPSK       | 1       | 0         | 23.17                   | 23.05      | 23.17      | 24.00         |
|           |            | 1       | 50        | 23.01                   | 23.07      | 23.21      | 24.00         |
|           |            | 1       | 99        | 23.13                   | 23.19      | 23.33      | 24.00         |
|           |            | 50      | 0         | 22.17                   | 22.06      | 22.31      | 23.00         |
|           |            | 50      | 25        | 22.07                   | 22.11      | 22.34      | 23.00         |
|           |            | 50      | 50        | 22.18                   | 22.38      | 22.32      | 23.00         |
|           |            | 100     | 0         | 22.00                   | 22.14      | 22.26      | 23.00         |
|           | 16QAM      | 1       | 0         | 22.34                   | 22.36      | 22.12      | 23.00         |
|           |            | 1       | 50        | 21.84                   | 21.94      | 22.09      | 23.00         |
|           |            | 1       | 99        | 22.23                   | 22.12      | 22.34      | 23.00         |
|           |            | 50      | 0         | 21.14                   | 21.07      | 21.19      | 22.00         |
|           |            | 50      | 25        | 21.07                   | 21.01      | 21.17      | 22.00         |
|           |            | 50      | 50        | 21.05                   | 21.08      | 21.23      | 22.00         |
|           |            | 100     | 0         | 21.10                   | 21.09      | 21.21      | 22.00         |
|           | 64QAM      | 1       | 0         | 22.01                   | 22.03      | 21.98      | 22.50         |
|           |            | 1       | 50        | 21.18                   | 21.28      | 21.88      | 22.50         |
|           |            | 1       | 99        | 21.84                   | 21.73      | 21.92      | 22.50         |
|           |            | 50      | 0         | 20.63                   | 20.56      | 20.77      | 21.00         |
|           |            | 50      | 25        | 20.60                   | 20.54      | 20.68      | 21.00         |
|           |            | 50      | 50        | 20.57                   | 20.60      | 20.62      | 21.00         |
|           |            | 100     | 0         | 20.52                   | 20.51      | 20.67      | 21.00         |



| DL LTE CA Class | PCC      |                     |                |                  |                |                | SCC      |                     |                | Power(dBm) |           |       | Tune-up Limit (dBm) |
|-----------------|----------|---------------------|----------------|------------------|----------------|----------------|----------|---------------------|----------------|------------|-----------|-------|---------------------|
|                 | PCC Band | PCC Bandwidth (MHz) | PCC UL RB size | PCC UL RB offset | PCC UL Channel | PCC DL Channel | SCC Band | SCC Bandwidth (MHz) | SCC DL Channel | Standalone | CA active | Delta |                     |
| CA_2C           | 2        | 5                   | 1              | 13               | 18808          | 808            | 2        | 20                  | 925            | 23.75      | 23.77     | -0.02 | 24.00               |
|                 | 2        | 10                  | 1              | 25               | 18806          | 806            | 2        | 20                  | 950            | 23.77      | 23.82     | -0.05 | 24.00               |
|                 | 2        | 15                  | 1              | 38               | 18803          | 803            | 2        | 20                  | 974            | 23.77      | 23.78     | -0.01 | 24.00               |
|                 | 2        | 20                  | 1              | 50               | 18801          | 801            | 2        | 20                  | 999            | 23.75      | 23.80     | -0.05 | 24.00               |
| CA_5B           | 5        | 5                   | 1              | 13               | 20428          | 2428           | 5        | 10                  | 2500           | 23.11      | 23.13     | -0.02 | 24.00               |
|                 | 5        | 10                  | 1              | 25               | 20450          | 2450           | 5        | 10                  | 2549           | 23.16      | 23.19     | -0.03 | 24.00               |
| CA_7C           | 7        | 10                  | 1              | 0                | 20805          | 2805           | 7        | 20                  | 2949           | 23.60      | 23.70     | -0.10 | 24.00               |
|                 | 7        | 15                  | 1              | 0                | 20828          | 2828           | 7        | 20                  | 2999           | 23.59      | 23.64     | -0.05 | 24.00               |
|                 | 7        | 20                  | 1              | 0                | 20850          | 2850           | 7        | 20                  | 3048           | 23.56      | 23.57     | -0.01 | 24.00               |
| CA_12B          | 12       | 5                   | 1              | 13               | 23058          | 5058           | 12       | 10                  | 5130           | 23.51      | 23.54     | -0.03 | 24.00               |
| CA_38C          | 38       | 15                  | 1              | 74               | 38025          | 38025          | 38       | 15                  | 38175          | 23.11      | 23.19     | -0.08 | 24.00               |
|                 | 38       | 20                  | 1              | 99               | 37952          | 37952          | 38       | 20                  | 38150          | 23.19      | 23.23     | -0.04 | 24.00               |
| CA_41C          | 41       | 5                   | 1              | 24               | 41023          | 41023          | 41       | 20                  | 41140          | 23.35      | 23.39     | -0.04 | 24.00               |
|                 | 41       | 10                  | 1              | 49               | 40996          | 40996          | 41       | 20                  | 41140          | 23.38      | 23.36     | 0.02  | 24.00               |
|                 | 41       | 15                  | 1              | 74               | 40969          | 40969          | 41       | 20                  | 41140          | 23.34      | 23.41     | -0.07 | 24.00               |
|                 | 41       | 20                  | 1              | 99               | 40942          | 40942          | 41       | 20                  | 41140          | 23.31      | 23.35     | -0.04 | 24.00               |
| CA_2A-5A        | 2        | 5                   | 1              | 13               | 18900          | 900            | 5        | 10                  | 2525           | 23.78      | 23.77     | 0.01  | 24.00               |
|                 | 2        | 10                  | 1              | 25               | 18900          | 900            | 5        | 10                  | 2525           | 23.83      | 23.91     | -0.08 | 24.00               |
|                 | 2        | 15                  | 1              | 38               | 18900          | 900            | 5        | 10                  | 2525           | 23.82      | 23.79     | 0.03  | 24.00               |
|                 | 2        | 20                  | 1              | 50               | 18900          | 900            | 5        | 10                  | 2525           | 23.78      | 23.74     | 0.04  | 24.00               |
|                 | 5        | 5                   | 1              | 13               | 20425          | 2425           | 2        | 20                  | 700            | 23.15      | 23.22     | -0.07 | 24.00               |
|                 | 5        | 10                  | 1              | 25               | 20450          | 2450           | 2        | 20                  | 700            | 23.14      | 23.24     | -0.10 | 24.00               |
| CA_2A-12A       | 2        | 5                   | 1              | 13               | 18900          | 900            | 12       | 10                  | 5095           | 23.78      | 23.74     | 0.04  | 24.00               |
|                 | 2        | 10                  | 1              | 25               | 18900          | 900            | 12       | 10                  | 5095           | 23.83      | 23.90     | -0.07 | 24.00               |
|                 | 2        | 15                  | 1              | 38               | 18900          | 900            | 12       | 10                  | 5095           | 23.82      | 23.79     | 0.03  | 24.00               |
|                 | 2        | 20                  | 1              | 50               | 18900          | 900            | 12       | 10                  | 5095           | 23.78      | 23.77     | 0.01  | 24.00               |
|                 | 12       | 5                   | 1              | 13               | 23155          | 5155           | 2        | 20                  | 1100           | 23.58      | 23.61     | -0.03 | 24.00               |
|                 | 12       | 10                  | 1              | 25               | 23130          | 5130           | 2        | 20                  | 1100           | 23.56      | 23.59     | -0.03 | 24.00               |
| CA_2A-17A       | 2        | 5                   | 1              | 13               | 18900          | 900            | 17       | 10                  | 5790           | 23.78      | 23.75     | 0.03  | 24.00               |
|                 | 2        | 10                  | 1              | 25               | 18900          | 900            | 17       | 10                  | 5790           | 23.83      | 23.84     | -0.01 | 24.00               |
|                 | 17       | 5                   | 1              | 0                | 23755          | 5755           | 2        | 20                  | 700            | 23.57      | 23.63     | -0.06 | 24.00               |
|                 | 17       | 10                  | 1              | 0                | 23780          | 5780           | 2        | 20                  | 700            | 23.54      | 23.61     | -0.07 | 24.00               |
| CA_4A-5A        | 4        | 5                   | 1              | 0                | 19975          | 1975           | 5        | 10                  | 2450           | 23.65      | 23.62     | 0.03  | 24.00               |
|                 | 4        | 10                  | 1              | 0                | 20000          | 2000           | 5        | 10                  | 2450           | 23.67      | 23.69     | -0.02 | 24.00               |
|                 | 4        | 15                  | 1              | 0                | 20025          | 2025           | 5        | 10                  | 2450           | 23.66      | 23.71     | -0.05 | 24.00               |
|                 | 4        | 20                  | 1              | 0                | 20050          | 2050           | 5        | 10                  | 2450           | 23.63      | 23.69     | -0.06 | 24.00               |
|                 | 5        | 5                   | 1              | 13               | 20425          | 2425           | 4        | 20                  | 2050           | 23.15      | 23.21     | -0.06 | 24.00               |
|                 | 5        | 10                  | 1              | 25               | 20450          | 2450           | 4        | 20                  | 2050           | 23.14      | 23.19     | -0.05 | 24.00               |
| CA_4A-12A       | 4        | 1.4                 | 1              | 0                | 19957          | 1957           | 12       | 10                  | 5060           | 23.66      | 23.72     | -0.06 | 24.00               |



|           |    |     |   |    |       |      |    |    |      |       |       |       |       |
|-----------|----|-----|---|----|-------|------|----|----|------|-------|-------|-------|-------|
|           | 4  | 3   | 1 | 0  | 19965 | 1965 | 12 | 10 | 5060 | 23.68 | 23.71 | -0.03 | 24.00 |
|           | 4  | 5   | 1 | 0  | 19975 | 1975 | 12 | 10 | 5060 | 23.65 | 23.61 | 0.04  | 24.00 |
|           | 4  | 10  | 1 | 0  | 20000 | 2000 | 12 | 10 | 5060 | 23.67 | 23.66 | 0.01  | 24.00 |
|           | 4  | 15  | 1 | 0  | 20025 | 2025 | 12 | 10 | 5060 | 23.66 | 23.51 | 0.15  | 24.00 |
|           | 4  | 20  | 1 | 0  | 20050 | 2050 | 12 | 10 | 5060 | 23.63 | 23.74 | -0.11 | 24.00 |
| CA_4A-17A | 4  | 5   | 1 | 0  | 19975 | 1975 | 17 | 10 | 5780 | 23.65 | 23.69 | -0.04 | 24.00 |
|           | 4  | 10  | 1 | 0  | 20000 | 2000 | 17 | 10 | 5780 | 23.67 | 23.73 | -0.06 | 24.00 |
| CA_5A-7A  | 5  | 1.4 | 1 | 2  | 20407 | 2407 | 7  | 20 | 2850 | 23.13 | 23.22 | -0.09 | 24.00 |
|           | 5  | 3   | 1 | 7  | 20415 | 2415 | 7  | 20 | 2850 | 23.17 | 23.20 | -0.03 | 24.00 |
|           | 5  | 5   | 1 | 13 | 20425 | 2425 | 7  | 20 | 2850 | 23.15 | 23.21 | -0.06 | 24.00 |
|           | 5  | 10  | 1 | 25 | 20450 | 2450 | 7  | 20 | 2850 | 23.14 | 23.20 | -0.06 | 24.00 |
|           | 7  | 10  | 1 | 0  | 20800 | 2800 | 5  | 10 | 2450 | 23.65 | 23.71 | -0.06 | 24.00 |
|           | 7  | 15  | 1 | 0  | 20825 | 2825 | 5  | 10 | 2450 | 23.64 | 23.69 | -0.05 | 24.00 |
|           | 7  | 20  | 1 | 0  | 20850 | 2850 | 5  | 10 | 2450 | 23.61 | 23.70 | -0.09 | 24.00 |
| CA_7A-12A | 7  | 5   | 1 | 0  | 20775 | 2775 | 12 | 10 | 5060 | 23.63 | 23.59 | 0.04  | 24.00 |
|           | 7  | 10  | 1 | 0  | 20800 | 2800 | 12 | 10 | 5060 | 23.65 | 23.72 | -0.07 | 24.00 |
|           | 7  | 15  | 1 | 0  | 20825 | 2825 | 12 | 10 | 5060 | 23.64 | 23.66 | -0.02 | 24.00 |
|           | 7  | 20  | 1 | 0  | 20850 | 2850 | 12 | 10 | 5060 | 23.61 | 23.59 | 0.02  | 24.00 |
|           | 12 | 5   | 1 | 13 | 23155 | 5155 | 7  | 20 | 3350 | 23.58 | 23.64 | -0.06 | 24.00 |
|           | 12 | 10  | 1 | 25 | 23130 | 5130 | 7  | 20 | 3350 | 23.56 | 23.52 | 0.04  | 24.00 |

| DL LTE CA Class | PCC      |                     |                |                  |                |                | SCC1      |                      |                 | SCC2      |                      |                 | Power(dBm) |           |       | Tune-up Limit (dBm) |
|-----------------|----------|---------------------|----------------|------------------|----------------|----------------|-----------|----------------------|-----------------|-----------|----------------------|-----------------|------------|-----------|-------|---------------------|
|                 | PCC Band | PCC Bandwidth (MHz) | PCC UL RB size | PCC UL RB offset | PCC UL Channel | PCC DL Channel | SCC1 Band | SCC1 Bandwidth (MHz) | SCC1 DL Channel | SCC2 Band | SCC2 Bandwidth (MHz) | SCC2 DL Channel | Standalone | CA active | Delta |                     |
| CA_2A-12B       | 2        | 5                   | 1              | 13               | 18900          | 900            | 12        | 5                    | 5048            | 12        | 10                   | 5120            | 23.78      | 23.79     | -0.01 | 24.00               |
|                 | 2        | 10                  | 1              | 25               | 18900          | 900            | 12        | 5                    | 5048            | 12        | 10                   | 5120            | 23.83      | 23.86     | -0.03 | 24.00               |
|                 | 2        | 15                  | 1              | 38               | 18900          | 900            | 12        | 5                    | 5048            | 12        | 10                   | 5120            | 23.82      | 23.88     | -0.06 | 24.00               |
|                 | 2        | 20                  | 1              | 50               | 18900          | 900            | 12        | 5                    | 5048            | 12        | 10                   | 5120            | 23.78      | 23.85     | -0.07 | 24.00               |
|                 | 12       | 5                   | 1              | 13               | 23058          | 5058           | 12        | 10                   | 5130            | 2         | 20                   | 1100            | 23.51      | 23.58     | -0.07 | 24.00               |
| CA_4A-12B       | 4        | 5                   | 1              | 0                | 19975          | 1975           | 12        | 5                    | 5038            | 12        | 10                   | 5110            | 23.65      | 23.61     | 0.04  | 24.00               |
|                 | 4        | 10                  | 1              | 0                | 20000          | 2000           | 12        | 5                    | 5038            | 12        | 10                   | 5110            | 23.67      | 23.64     | 0.03  | 24.00               |
|                 | 4        | 15                  | 1              | 0                | 20025          | 2025           | 12        | 5                    | 5038            | 12        | 10                   | 5110            | 23.66      | 23.65     | 0.01  | 24.00               |
|                 | 4        | 20                  | 1              | 0                | 20050          | 2050           | 12        | 5                    | 5038            | 12        | 10                   | 5110            | 23.63      | 23.60     | 0.03  | 24.00               |
| CA_41D          | 41       | 10                  | 1              | 49               | 40798          | 40798          | 41        | 20                   | 40942           | 41        | 20                   | 41140           | 23.34      | 23.41     | -0.07 | 24.00               |
|                 | 41       | 15                  | 1              | 74               | 40771          | 40771          | 41        | 20                   | 40942           | 41        | 20                   | 41140           | 23.37      | 23.40     | -0.03 | 24.00               |
|                 | 41       | 20                  | 1              | 99               | 40744          | 40744          | 41        | 20                   | 40942           | 41        | 20                   | 41140           | 23.33      | 23.39     | -0.06 | 24.00               |

(Antenna 2)

| LTE FDD Band 2<br>(REC On+Left Head) |            |         |           | Conducted Power(dBm)    |            |              |                  |
|--------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|------------------|
| Bandwidth                            | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                      |            |         |           | 18607/1850.7            | 18900/1880 | 19193/1909.3 |                  |
| 1.4MHz                               | QPSK       | 1       | 0         | 19.63                   | 19.77      | 19.70        | 20.00            |
|                                      |            | 1       | 2         | 19.43                   | 19.46      | 19.51        | 20.00            |
|                                      |            | 1       | 5         | 19.63                   | 19.58      | 19.61        | 20.00            |
|                                      |            | 3       | 0         | 19.47                   | 19.57      | 19.69        | 20.00            |
|                                      |            | 3       | 2         | 18.95                   | 19.53      | 19.62        | 20.00            |
|                                      |            | 3       | 3         | 19.57                   | 19.55      | 19.56        | 20.00            |
|                                      |            | 6       | 0         | 19.38                   | 19.71      | 19.61        | 20.00            |
|                                      | 16QAM      | 1       | 0         | 19.66                   | 19.86      | 19.62        | 20.00            |
|                                      |            | 1       | 2         | 19.66                   | 19.26      | 19.47        | 20.00            |
|                                      |            | 1       | 5         | 19.71                   | 19.82      | 19.82        | 20.00            |
|                                      |            | 3       | 0         | 19.52                   | 19.52      | 19.58        | 20.00            |
|                                      |            | 3       | 2         | 19.50                   | 19.48      | 19.67        | 20.00            |
|                                      |            | 3       | 3         | 19.44                   | 19.64      | 19.62        | 20.00            |
|                                      |            | 6       | 0         | 19.39                   | 19.48      | 19.59        | 20.00            |
|                                      | 64QAM      | 1       | 0         | 19.72                   | 19.81      | 19.72        | 20.00            |
|                                      |            | 1       | 2         | 19.47                   | 19.58      | 19.51        | 20.00            |
|                                      |            | 1       | 5         | 19.64                   | 19.80      | 19.71        | 20.00            |
|                                      |            | 3       | 0         | 19.48                   | 19.48      | 19.56        | 20.00            |
|                                      |            | 3       | 2         | 19.60                   | 19.45      | 19.53        | 20.00            |
|                                      |            | 3       | 3         | 19.41                   | 19.50      | 19.59        | 20.00            |
|                                      |            | 6       | 0         | 19.37                   | 19.48      | 19.58        | 20.00            |
| Bandwidth                            | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                      |            |         |           | 18615/1851.5            | 18900/1880 | 19185/1908.5 |                  |
| 3MHz                                 | QPSK       | 1       | 0         | 19.61                   | 19.70      | 19.68        | 20.00            |
|                                      |            | 1       | 7         | 19.43                   | 19.46      | 19.50        | 20.00            |
|                                      |            | 1       | 14        | 19.60                   | 19.56      | 19.57        | 20.00            |
|                                      |            | 8       | 0         | 19.45                   | 19.53      | 19.66        | 20.00            |
|                                      |            | 8       | 4         | 18.93                   | 19.49      | 19.59        | 20.00            |
|                                      |            | 8       | 7         | 19.53                   | 19.51      | 19.53        | 20.00            |
|                                      |            | 15      | 0         | 19.41                   | 19.64      | 19.56        | 20.00            |
|                                      | 16QAM      | 1       | 0         | 19.61                   | 19.83      | 19.57        | 20.00            |
|                                      |            | 1       | 7         | 19.63                   | 19.25      | 19.44        | 20.00            |
|                                      |            | 1       | 14        | 19.69                   | 19.77      | 19.80        | 20.00            |
|                                      |            | 8       | 0         | 19.49                   | 19.51      | 19.56        | 20.00            |
|                                      |            | 8       | 4         | 19.46                   | 19.45      | 19.63        | 20.00            |
|                                      |            | 8       | 7         | 19.42                   | 19.60      | 19.59        | 20.00            |
|                                      |            | 15      | 0         | 19.37                   | 19.44      | 19.56        | 20.00            |



|           | 64QAM      | 1       | 0         | 19.67                   | 19.78      | 19.67        | 20.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 1       | 7         | 19.44                   | 19.57      | 19.48        | 20.00         |
|           |            | 1       | 14        | 19.62                   | 19.75      | 19.69        | 20.00         |
|           |            | 8       | 0         | 19.45                   | 19.47      | 19.54        | 20.00         |
|           |            | 8       | 4         | 19.56                   | 19.42      | 19.49        | 20.00         |
|           |            | 8       | 7         | 19.39                   | 19.46      | 19.56        | 20.00         |
|           |            | 15      | 0         | 19.35                   | 19.44      | 19.55        | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18625/1852.5            | 18900/1880 | 19175/1907.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 19.58                   | 19.68      | 19.64        | 20.00         |
|           |            | 1       | 13        | 19.41                   | 19.42      | 19.47        | 20.00         |
|           |            | 1       | 24        | 19.57                   | 19.51      | 19.53        | 20.00         |
|           |            | 12      | 0         | 19.42                   | 19.48      | 19.62        | 20.00         |
|           |            | 12      | 6         | 18.91                   | 19.45      | 19.54        | 20.00         |
|           |            | 12      | 13        | 19.51                   | 19.49      | 19.49        | 20.00         |
|           |            | 25      | 0         | 19.39                   | 19.63      | 19.54        | 20.00         |
|           | 16QAM      | 1       | 0         | 19.58                   | 19.79      | 19.54        | 20.00         |
|           |            | 1       | 13        | 19.60                   | 19.23      | 19.41        | 20.00         |
|           |            | 1       | 24        | 19.66                   | 19.75      | 19.76        | 20.00         |
|           |            | 12      | 0         | 19.47                   | 19.47      | 19.53        | 20.00         |
|           |            | 12      | 6         | 19.43                   | 19.40      | 19.59        | 20.00         |
|           |            | 12      | 13        | 19.39                   | 19.55      | 19.55        | 20.00         |
|           |            | 25      | 0         | 19.35                   | 19.40      | 19.51        | 20.00         |
|           | 64QAM      | 1       | 0         | 19.64                   | 19.74      | 19.64        | 20.00         |
|           |            | 1       | 13        | 19.41                   | 19.55      | 19.45        | 20.00         |
|           |            | 1       | 24        | 19.59                   | 19.73      | 19.65        | 20.00         |
|           |            | 12      | 0         | 19.43                   | 19.43      | 19.51        | 20.00         |
|           |            | 12      | 6         | 19.53                   | 19.37      | 19.45        | 20.00         |
|           |            | 12      | 13        | 19.36                   | 19.41      | 19.52        | 20.00         |
|           |            | 25      | 0         | 19.33                   | 19.40      | 19.50        | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18650/1855              | 18900/1880 | 19150/1905   |               |
| 10MHz     | QPSK       | 1       | 0         | 19.60                   | 19.69      | 19.67        | 20.00         |
|           |            | 1       | 25        | 19.44                   | 19.47      | 19.51        | 20.00         |
|           |            | 1       | 49        | 19.59                   | 19.55      | 19.56        | 20.00         |
|           |            | 25      | 0         | 19.45                   | 19.53      | 19.66        | 20.00         |
|           |            | 25      | 13        | 18.94                   | 19.50      | 19.58        | 20.00         |
|           |            | 25      | 25        | 19.53                   | 19.53      | 19.54        | 20.00         |
|           |            | 50      | 0         | 19.47                   | 19.65      | 19.58        | 20.00         |
|           | 16QAM      | 1       | 0         | 19.60                   | 19.82      | 19.56        | 20.00         |
|           |            | 1       | 25        | 19.63                   | 19.27      | 19.44        | 20.00         |
|           |            | 1       | 49        | 19.69                   | 19.77      | 19.79        | 20.00         |
|           |            | 25      | 0         | 19.50                   | 19.52      | 19.57        | 20.00         |



|           |            | 25      | 13        | 19.45                   | 19.44      | 19.62        | 20.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 25      | 25        | 19.42                   | 19.60      | 19.59        | 20.00         |
|           |            | 50      | 0         | 19.38                   | 19.45      | 19.55        | 20.00         |
|           | 64QAM      | 1       | 0         | 19.66                   | 19.77      | 19.66        | 20.00         |
|           |            | 1       | 25        | 19.44                   | 19.59      | 19.48        | 20.00         |
|           |            | 1       | 49        | 19.62                   | 19.75      | 19.68        | 20.00         |
|           |            | 25      | 0         | 19.46                   | 19.48      | 19.55        | 20.00         |
|           |            | 25      | 13        | 19.55                   | 19.41      | 19.48        | 20.00         |
|           |            | 25      | 25        | 19.39                   | 19.46      | 19.56        | 20.00         |
|           |            | 50      | 0         | 19.36                   | 19.45      | 19.54        | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18675/1857.5            | 18900/1880 | 19125/1902.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 19.59                   | 19.65      | 19.65        | 20.00         |
|           |            | 1       | 38        | 19.42                   | 19.46      | 19.48        | 20.00         |
|           |            | 1       | 74        | 19.56                   | 19.50      | 19.52        | 20.00         |
|           |            | 36      | 0         | 19.43                   | 19.49      | 19.63        | 20.00         |
|           |            | 36      | 18        | 18.91                   | 19.45      | 19.54        | 20.00         |
|           |            | 36      | 39        | 19.50                   | 19.50      | 19.50        | 20.00         |
|           |            | 75      | 0         | 19.45                   | 19.61      | 19.53        | 20.00         |
|           | 16QAM      | 1       | 0         | 19.55                   | 19.80      | 19.54        | 20.00         |
|           |            | 1       | 38        | 19.61                   | 19.24      | 19.42        | 20.00         |
|           |            | 1       | 74        | 19.66                   | 19.73      | 19.76        | 20.00         |
|           |            | 36      | 0         | 19.47                   | 19.50      | 19.54        | 20.00         |
|           |            | 36      | 18        | 19.42                   | 19.39      | 19.58        | 20.00         |
|           |            | 36      | 39        | 19.40                   | 19.56      | 19.56        | 20.00         |
|           |            | 75      | 0         | 19.35                   | 19.40      | 19.51        | 20.00         |
|           | 64QAM      | 1       | 0         | 19.61                   | 19.75      | 19.64        | 20.00         |
|           |            | 1       | 38        | 19.42                   | 19.56      | 19.46        | 20.00         |
|           |            | 1       | 74        | 19.59                   | 19.71      | 19.65        | 20.00         |
|           |            | 36      | 0         | 19.43                   | 19.46      | 19.52        | 20.00         |
|           |            | 36      | 18        | 19.52                   | 19.36      | 19.44        | 20.00         |
|           |            | 36      | 39        | 19.37                   | 19.42      | 19.53        | 20.00         |
|           |            | 75      | 0         | 19.33                   | 19.40      | 19.50        | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18700/1860              | 18900/1880 | 19100/1900   |               |
| 20MHz     | QPSK       | 1       | 0         | 19.56                   | 19.61      | 19.62        | 20.00         |
|           |            | 1       | 50        | 19.41                   | 19.42      | 19.46        | 20.00         |
|           |            | 1       | 99        | 19.54                   | 19.49      | 19.49        | 20.00         |
|           |            | 50      | 0         | 19.40                   | 19.44      | 19.59        | 20.00         |
|           |            | 50      | 25        | 18.89                   | 19.41      | 19.51        | 20.00         |
|           |            | 50      | 50        | 19.47                   | 19.45      | 19.46        | 20.00         |
|           |            | 100     | 0         | 19.42                   | 19.56      | 19.49        | 20.00         |
|           | 16QAM      | 1       | 0         | 19.53                   | 19.76      | 19.49        | 20.00         |



|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  |       | 1   | 50 | 19.57 | 19.22 | 19.38 | 20.00 |
|  |       | 1   | 99 | 19.64 | 19.70 | 19.74 | 20.00 |
|  |       | 50  | 0  | 19.44 | 19.46 | 19.51 | 20.00 |
|  |       | 50  | 25 | 19.39 | 19.37 | 19.55 | 20.00 |
|  |       | 50  | 50 | 19.37 | 19.51 | 19.52 | 20.00 |
|  |       | 100 | 0  | 19.33 | 19.36 | 19.48 | 20.00 |
|  | 64QAM | 1   | 0  | 19.59 | 19.71 | 19.59 | 20.00 |
|  |       | 1   | 50 | 19.38 | 19.54 | 19.42 | 20.00 |
|  |       | 1   | 99 | 19.57 | 19.68 | 19.63 | 20.00 |
|  |       | 50  | 0  | 19.40 | 19.42 | 19.49 | 20.00 |
|  |       | 50  | 25 | 19.49 | 19.34 | 19.41 | 20.00 |
|  |       | 50  | 50 | 19.34 | 19.37 | 19.49 | 20.00 |
|  |       | 100 | 0  | 19.31 | 19.36 | 19.47 | 20.00 |

| LTE FDD Band 2<br>(REC On+Right Head) |            |         |           | Conducted Power(dBm)    |            |              |               |
|---------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                       |            |         |           | 18607/1850.7            | 18900/1880 | 19193/1909.3 |               |
| 1.4MHz                                | QPSK       | 1       | 0         | 16.99                   | 17.08      | 17.07        | 17.50         |
|                                       |            | 1       | 2         | 16.87                   | 16.91      | 16.92        | 17.50         |
|                                       |            | 1       | 5         | 17.15                   | 17.00      | 17.06        | 17.50         |
|                                       |            | 3       | 0         | 17.03                   | 17.00      | 17.02        | 17.50         |
|                                       |            | 3       | 2         | 16.84                   | 17.02      | 17.12        | 17.50         |
|                                       |            | 3       | 3         | 16.93                   | 16.98      | 16.96        | 17.50         |
|                                       |            | 6       | 0         | 16.68                   | 17.09      | 17.28        | 17.50         |
|                                       | 16QAM      | 1       | 0         | 17.06                   | 17.32      | 17.10        | 17.50         |
|                                       |            | 1       | 2         | 16.96                   | 16.51      | 16.40        | 17.50         |
|                                       |            | 1       | 5         | 17.14                   | 17.21      | 16.85        | 17.50         |
|                                       |            | 3       | 0         | 16.79                   | 16.84      | 17.11        | 17.50         |
|                                       |            | 3       | 2         | 16.80                   | 16.83      | 17.00        | 17.50         |
|                                       |            | 3       | 3         | 16.87                   | 16.95      | 16.92        | 17.50         |
|                                       |            | 6       | 0         | 16.95                   | 16.86      | 17.04        | 17.50         |
|                                       | 64QAM      | 1       | 0         | 16.59                   | 17.22      | 17.05        | 17.50         |
|                                       |            | 1       | 2         | 16.57                   | 16.45      | 16.43        | 17.50         |
|                                       |            | 1       | 5         | 16.82                   | 16.90      | 16.90        | 17.50         |
|                                       |            | 3       | 0         | 16.99                   | 16.87      | 16.90        | 17.50         |
|                                       |            | 3       | 2         | 17.03                   | 16.95      | 17.01        | 17.50         |
|                                       |            | 3       | 3         | 16.71                   | 17.06      | 16.89        | 17.50         |
|                                       |            | 6       | 0         | 16.77                   | 16.98      | 17.04        | 17.50         |
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                       |            |         |           | 18615/1851.5            | 18900/1880 | 19185/1908.5 |               |
| 3MHz                                  | QPSK       | 1       | 0         | 16.97                   | 17.01      | 17.05        | 17.50         |
|                                       |            | 1       | 7         | 16.87                   | 16.91      | 16.91        | 17.50         |



|           |            | 1       | 14        | 17.12                   | 16.98      | 17.02        | 17.50         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 8       | 0         | 17.01                   | 16.96      | 16.99        | 17.50         |
|           |            | 8       | 4         | 16.82                   | 16.98      | 17.09        | 17.50         |
|           |            | 8       | 7         | 16.89                   | 16.94      | 16.93        | 17.50         |
|           |            | 15      | 0         | 16.71                   | 17.02      | 17.23        | 17.50         |
|           | 16QAM      | 1       | 0         | 17.01                   | 17.29      | 17.05        | 17.50         |
|           |            | 1       | 7         | 16.93                   | 16.50      | 16.37        | 17.50         |
|           |            | 1       | 14        | 17.12                   | 17.16      | 16.83        | 17.50         |
|           |            | 8       | 0         | 16.76                   | 16.83      | 17.09        | 17.50         |
|           |            | 8       | 4         | 16.76                   | 16.80      | 16.96        | 17.50         |
|           |            | 8       | 7         | 16.85                   | 16.91      | 16.89        | 17.50         |
|           |            | 15      | 0         | 16.93                   | 16.82      | 17.01        | 17.50         |
|           | 64QAM      | 1       | 0         | 16.54                   | 17.19      | 17.00        | 17.50         |
|           |            | 1       | 7         | 16.54                   | 16.44      | 16.40        | 17.50         |
|           |            | 1       | 14        | 16.80                   | 16.85      | 16.88        | 17.50         |
|           |            | 8       | 0         | 16.96                   | 16.86      | 16.88        | 17.50         |
|           |            | 8       | 4         | 16.99                   | 16.92      | 16.97        | 17.50         |
|           |            | 8       | 7         | 16.69                   | 17.02      | 16.86        | 17.50         |
|           |            | 15      | 0         | 16.75                   | 16.94      | 17.01        | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18625/1852.5            | 18900/1880 | 19175/1907.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 16.94                   | 16.99      | 17.01        | 17.50         |
|           |            | 1       | 13        | 16.85                   | 16.87      | 16.88        | 17.50         |
|           |            | 1       | 24        | 17.09                   | 16.93      | 16.98        | 17.50         |
|           |            | 12      | 0         | 16.98                   | 16.91      | 16.95        | 17.50         |
|           |            | 12      | 6         | 16.80                   | 16.94      | 17.04        | 17.50         |
|           |            | 12      | 13        | 16.87                   | 16.92      | 16.89        | 17.50         |
|           |            | 25      | 0         | 16.69                   | 17.01      | 17.21        | 17.50         |
|           | 16QAM      | 1       | 0         | 16.98                   | 17.25      | 17.02        | 17.50         |
|           |            | 1       | 13        | 16.90                   | 16.48      | 16.34        | 17.50         |
|           |            | 1       | 24        | 17.09                   | 17.14      | 16.79        | 17.50         |
|           |            | 12      | 0         | 16.74                   | 16.79      | 17.06        | 17.50         |
|           |            | 12      | 6         | 16.73                   | 16.75      | 16.92        | 17.50         |
|           |            | 12      | 13        | 16.82                   | 16.86      | 16.85        | 17.50         |
|           |            | 25      | 0         | 16.91                   | 16.78      | 16.96        | 17.50         |
|           | 64QAM      | 1       | 0         | 16.51                   | 17.15      | 16.97        | 17.50         |
|           |            | 1       | 13        | 16.51                   | 16.42      | 16.37        | 17.50         |
|           |            | 1       | 24        | 16.77                   | 16.83      | 16.84        | 17.50         |
|           |            | 12      | 0         | 16.94                   | 16.82      | 16.85        | 17.50         |
|           |            | 12      | 6         | 16.96                   | 16.87      | 16.93        | 17.50         |
|           |            | 12      | 13        | 16.66                   | 16.97      | 16.82        | 17.50         |
|           |            | 25      | 0         | 16.73                   | 16.90      | 16.96        | 17.50         |





| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            |         |           | 18650/1855              | 18900/1880 | 19150/1905   |               |
| 10MHz     | QPSK       | 1       | 0         | 16.96                   | 17.00      | 17.04        | 17.50         |
|           |            | 1       | 25        | 16.88                   | 16.92      | 16.92        | 17.50         |
|           |            | 1       | 49        | 17.11                   | 16.97      | 17.01        | 17.50         |
|           |            | 25      | 0         | 17.01                   | 16.96      | 16.99        | 17.50         |
|           |            | 25      | 13        | 16.83                   | 16.99      | 17.08        | 17.50         |
|           |            | 25      | 25        | 16.89                   | 16.96      | 16.94        | 17.50         |
|           |            | 50      | 0         | 16.77                   | 17.03      | 17.25        | 17.50         |
|           | 16QAM      | 1       | 0         | 17.00                   | 17.28      | 17.04        | 17.50         |
|           |            | 1       | 25        | 16.93                   | 16.52      | 16.37        | 17.50         |
|           |            | 1       | 49        | 17.12                   | 17.16      | 16.82        | 17.50         |
|           |            | 25      | 0         | 16.77                   | 16.84      | 17.10        | 17.50         |
|           |            | 25      | 13        | 16.75                   | 16.79      | 16.95        | 17.50         |
|           |            | 25      | 25        | 16.85                   | 16.91      | 16.89        | 17.50         |
|           |            | 50      | 0         | 16.94                   | 16.83      | 17.00        | 17.50         |
|           | 64QAM      | 1       | 0         | 16.53                   | 17.18      | 16.99        | 17.50         |
|           |            | 1       | 25        | 16.54                   | 16.46      | 16.40        | 17.50         |
|           |            | 1       | 49        | 16.80                   | 16.85      | 16.87        | 17.50         |
|           |            | 25      | 0         | 16.97                   | 16.87      | 16.89        | 17.50         |
|           |            | 25      | 13        | 16.98                   | 16.91      | 16.96        | 17.50         |
|           |            | 25      | 25        | 16.69                   | 17.02      | 16.86        | 17.50         |
|           |            | 50      | 0         | 16.76                   | 16.95      | 17.00        | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18675/1857.5            | 18900/1880 | 19125/1902.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 16.95                   | 16.96      | 17.02        | 17.50         |
|           |            | 1       | 38        | 16.86                   | 16.91      | 16.89        | 17.50         |
|           |            | 1       | 74        | 17.08                   | 16.92      | 16.97        | 17.50         |
|           |            | 36      | 0         | 16.99                   | 16.92      | 16.96        | 17.50         |
|           |            | 36      | 18        | 16.80                   | 16.94      | 17.04        | 17.50         |
|           |            | 36      | 39        | 16.86                   | 16.93      | 16.90        | 17.50         |
|           |            | 75      | 0         | 16.75                   | 16.99      | 17.20        | 17.50         |
|           | 16QAM      | 1       | 0         | 16.95                   | 17.26      | 17.02        | 17.50         |
|           |            | 1       | 38        | 16.91                   | 16.49      | 16.35        | 17.50         |
|           |            | 1       | 74        | 17.09                   | 17.12      | 16.79        | 17.50         |
|           |            | 36      | 0         | 16.74                   | 16.82      | 17.07        | 17.50         |
|           |            | 36      | 18        | 16.72                   | 16.74      | 16.91        | 17.50         |
|           |            | 36      | 39        | 16.83                   | 16.87      | 16.86        | 17.50         |
|           |            | 75      | 0         | 16.91                   | 16.78      | 16.96        | 17.50         |
|           | 64QAM      | 1       | 0         | 16.48                   | 17.16      | 16.97        | 17.50         |
|           |            | 1       | 38        | 16.52                   | 16.43      | 16.38        | 17.50         |
|           |            | 1       | 74        | 16.77                   | 16.81      | 16.84        | 17.50         |
|           |            | 36      | 0         | 16.94                   | 16.85      | 16.86        | 17.50         |



|           |            | 36      | 18        | 16.95                   | 16.86      | 16.92      | 17.50         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 36      | 39        | 16.67                   | 16.98      | 16.83      | 17.50         |
|           |            | 75      | 0         | 16.73                   | 16.90      | 16.96      | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 18700/1860              | 18900/1880 | 19100/1900 |               |
| 20MHz     | QPSK       | 1       | 0         | 16.92                   | 16.92      | 16.99      | 17.50         |
|           |            | 1       | 50        | 16.85                   | 16.87      | 16.87      | 17.50         |
|           |            | 1       | 99        | 17.06                   | 16.91      | 16.94      | 17.50         |
|           |            | 50      | 0         | 16.96                   | 16.87      | 16.92      | 17.50         |
|           |            | 50      | 25        | 16.78                   | 16.90      | 17.01      | 17.50         |
|           |            | 50      | 50        | 16.83                   | 16.88      | 16.86      | 17.50         |
|           |            | 100     | 0         | 16.72                   | 16.94      | 17.16      | 17.50         |
|           | 16QAM      | 1       | 0         | 16.93                   | 17.22      | 16.97      | 17.50         |
|           |            | 1       | 50        | 16.87                   | 16.47      | 16.31      | 17.50         |
|           |            | 1       | 99        | 17.07                   | 17.09      | 16.77      | 17.50         |
|           |            | 50      | 0         | 16.71                   | 16.78      | 17.04      | 17.50         |
|           |            | 50      | 25        | 16.69                   | 16.72      | 16.88      | 17.50         |
|           |            | 50      | 50        | 16.80                   | 16.82      | 16.82      | 17.50         |
|           |            | 100     | 0         | 16.89                   | 16.74      | 16.93      | 17.50         |
|           | 64QAM      | 1       | 0         | 16.46                   | 17.12      | 16.92      | 17.50         |
|           |            | 1       | 50        | 16.48                   | 16.41      | 16.34      | 17.50         |
|           |            | 1       | 99        | 16.75                   | 16.78      | 16.82      | 17.50         |
|           |            | 50      | 0         | 16.91                   | 16.81      | 16.83      | 17.50         |
|           |            | 50      | 25        | 16.92                   | 16.84      | 16.89      | 17.50         |
|           |            | 50      | 50        | 16.64                   | 16.93      | 16.79      | 17.50         |
|           |            | 100     | 0         | 16.71                   | 16.86      | 16.93      | 17.50         |

| LTE FDD Band 2<br>(REC On+Left Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |            |              |               |
|-----------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                     | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                               |            |         |           | 18607/1850.7            | 18900/1880 | 19193/1909.3 |               |
| 1.4MHz                                        | QPSK       | 1       | 0         | 16.48                   | 16.68      | 16.61        | 17.50         |
|                                               |            | 1       | 2         | 16.59                   | 16.68      | 16.59        | 17.50         |
|                                               |            | 1       | 5         | 16.65                   | 16.79      | 16.84        | 17.50         |
|                                               |            | 3       | 0         | 16.70                   | 16.55      | 16.63        | 17.50         |
|                                               |            | 3       | 2         | 16.81                   | 16.71      | 16.86        | 17.50         |
|                                               |            | 3       | 3         | 16.62                   | 16.70      | 16.72        | 17.50         |
|                                               |            | 6       | 0         | 16.71                   | 16.59      | 16.83        | 17.50         |
|                                               | 16QAM      | 1       | 0         | 16.66                   | 15.67      | 16.77        | 17.50         |
|                                               |            | 1       | 2         | 16.73                   | 17.27      | 16.70        | 17.50         |
|                                               |            | 1       | 5         | 16.84                   | 17.29      | 16.71        | 17.50         |
|                                               |            | 3       | 0         | 16.71                   | 16.45      | 16.73        | 17.50         |
|                                               |            | 3       | 2         | 16.62                   | 16.75      | 16.90        | 17.50         |



|           |            | 3       | 3         | 16.75                   | 16.92      | 16.93        | 17.50         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 6       | 0         | 16.79                   | 16.54      | 16.73        | 17.50         |
|           | 64QAM      | 1       | 0         | 16.51                   | 16.77      | 16.61        | 17.50         |
|           |            | 1       | 2         | 16.72                   | 16.69      | 17.39        | 17.50         |
|           |            | 1       | 5         | 16.62                   | 16.85      | 16.65        | 17.50         |
|           |            | 3       | 0         | 16.68                   | 16.52      | 16.61        | 17.50         |
|           |            | 3       | 2         | 16.73                   | 16.69      | 16.89        | 17.50         |
|           |            | 3       | 3         | 16.49                   | 16.70      | 16.68        | 17.50         |
|           |            | 6       | 0         | 16.71                   | 16.52      | 16.77        | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18615/1851.5            | 18900/1880 | 19185/1908.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 16.46                   | 16.61      | 16.59        | 17.50         |
|           |            | 1       | 7         | 16.59                   | 16.68      | 16.58        | 17.50         |
|           |            | 1       | 14        | 16.62                   | 16.77      | 16.80        | 17.50         |
|           |            | 8       | 0         | 16.68                   | 16.51      | 16.60        | 17.50         |
|           |            | 8       | 4         | 16.79                   | 16.67      | 16.83        | 17.50         |
|           |            | 8       | 7         | 16.58                   | 16.66      | 16.69        | 17.50         |
|           |            | 15      | 0         | 16.74                   | 16.52      | 16.78        | 17.50         |
|           | 16QAM      | 1       | 0         | 16.61                   | 15.64      | 16.72        | 17.50         |
|           |            | 1       | 7         | 16.70                   | 17.26      | 16.67        | 17.50         |
|           |            | 1       | 14        | 16.82                   | 17.24      | 16.69        | 17.50         |
|           |            | 8       | 0         | 16.68                   | 16.44      | 16.71        | 17.50         |
|           |            | 8       | 4         | 16.58                   | 16.72      | 16.86        | 17.50         |
|           |            | 8       | 7         | 16.73                   | 16.88      | 16.90        | 17.50         |
|           |            | 15      | 0         | 16.77                   | 16.50      | 16.70        | 17.50         |
|           | 64QAM      | 1       | 0         | 16.46                   | 16.74      | 16.56        | 17.50         |
|           |            | 1       | 7         | 16.69                   | 16.68      | 17.36        | 17.50         |
|           |            | 1       | 14        | 16.60                   | 16.80      | 16.63        | 17.50         |
|           |            | 8       | 0         | 16.65                   | 16.51      | 16.59        | 17.50         |
|           |            | 8       | 4         | 16.69                   | 16.66      | 16.85        | 17.50         |
|           |            | 8       | 7         | 16.47                   | 16.66      | 16.65        | 17.50         |
|           |            | 15      | 0         | 16.69                   | 16.48      | 16.74        | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18625/1852.5            | 18900/1880 | 19175/1907.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 16.43                   | 16.59      | 16.55        | 17.50         |
|           |            | 1       | 13        | 16.57                   | 16.64      | 16.55        | 17.50         |
|           |            | 1       | 24        | 16.59                   | 16.72      | 16.76        | 17.50         |
|           |            | 12      | 0         | 16.65                   | 16.46      | 16.56        | 17.50         |
|           |            | 12      | 6         | 16.77                   | 16.63      | 16.78        | 17.50         |
|           |            | 12      | 13        | 16.56                   | 16.64      | 16.65        | 17.50         |
|           |            | 25      | 0         | 16.72                   | 16.51      | 16.76        | 17.50         |
|           | 16QAM      | 1       | 0         | 16.58                   | 15.60      | 16.69        | 17.50         |
|           |            | 1       | 13        | 16.67                   | 17.24      | 16.64        | 17.50         |



|           |            | 1       | 24        | 16.79                   | 17.22      | 16.65        | 17.50         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 12      | 0         | 16.66                   | 16.40      | 16.68        | 17.50         |
|           |            | 12      | 6         | 16.55                   | 16.67      | 16.82        | 17.50         |
|           |            | 12      | 13        | 16.70                   | 16.83      | 16.86        | 17.50         |
|           |            | 25      | 0         | 16.75                   | 16.46      | 16.65        | 17.50         |
|           | 64QAM      | 1       | 0         | 16.43                   | 16.70      | 16.53        | 17.50         |
|           |            | 1       | 13        | 16.66                   | 16.66      | 17.33        | 17.50         |
|           |            | 1       | 24        | 16.57                   | 16.78      | 16.59        | 17.50         |
|           |            | 12      | 0         | 16.63                   | 16.47      | 16.56        | 17.50         |
|           |            | 12      | 6         | 16.66                   | 16.61      | 16.81        | 17.50         |
|           |            | 12      | 13        | 16.44                   | 16.61      | 16.61        | 17.50         |
|           |            | 25      | 0         | 16.67                   | 16.44      | 16.69        | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18650/1855              | 18900/1880 | 19150/1905   |               |
| 10MHz     | QPSK       | 1       | 0         | 16.45                   | 16.60      | 16.58        | 17.50         |
|           |            | 1       | 25        | 16.60                   | 16.69      | 16.59        | 17.50         |
|           |            | 1       | 49        | 16.61                   | 16.76      | 16.79        | 17.50         |
|           |            | 25      | 0         | 16.68                   | 16.51      | 16.60        | 17.50         |
|           |            | 25      | 13        | 16.80                   | 16.68      | 16.82        | 17.50         |
|           |            | 25      | 25        | 16.58                   | 16.68      | 16.70        | 17.50         |
|           |            | 50      | 0         | 16.80                   | 16.53      | 16.80        | 17.50         |
|           | 16QAM      | 1       | 0         | 16.60                   | 15.63      | 16.71        | 17.50         |
|           |            | 1       | 25        | 16.70                   | 17.28      | 16.67        | 17.50         |
|           |            | 1       | 49        | 16.82                   | 17.24      | 16.68        | 17.50         |
|           |            | 25      | 0         | 16.69                   | 16.45      | 16.72        | 17.50         |
|           |            | 25      | 13        | 16.57                   | 16.71      | 16.85        | 17.50         |
|           |            | 25      | 25        | 16.73                   | 16.88      | 16.90        | 17.50         |
|           |            | 50      | 0         | 16.78                   | 16.51      | 16.69        | 17.50         |
|           | 64QAM      | 1       | 0         | 16.45                   | 16.73      | 16.55        | 17.50         |
|           |            | 1       | 25        | 16.69                   | 16.70      | 17.36        | 17.50         |
|           |            | 1       | 49        | 16.60                   | 16.80      | 16.62        | 17.50         |
|           |            | 25      | 0         | 16.66                   | 16.52      | 16.60        | 17.50         |
|           |            | 25      | 13        | 16.68                   | 16.65      | 16.84        | 17.50         |
|           |            | 25      | 25        | 16.47                   | 16.66      | 16.65        | 17.50         |
|           |            | 50      | 0         | 16.70                   | 16.49      | 16.73        | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18675/1857.5            | 18900/1880 | 19125/1902.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 16.44                   | 16.56      | 16.56        | 17.50         |
|           |            | 1       | 38        | 16.58                   | 16.68      | 16.56        | 17.50         |
|           |            | 1       | 74        | 16.58                   | 16.71      | 16.75        | 17.50         |
|           |            | 36      | 0         | 16.66                   | 16.47      | 16.57        | 17.50         |
|           |            | 36      | 18        | 16.77                   | 16.63      | 16.78        | 17.50         |
|           |            | 36      | 39        | 16.55                   | 16.65      | 16.66        | 17.50         |



|           | 16QAM      | 75      | 0         | 16.78                   | 16.49      | 16.75      | 17.50         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 1       | 0         | 16.55                   | 15.61      | 16.69      | 17.50         |
|           |            | 1       | 38        | 16.68                   | 17.25      | 16.65      | 17.50         |
|           |            | 1       | 74        | 16.79                   | 17.20      | 16.65      | 17.50         |
|           |            | 36      | 0         | 16.66                   | 16.43      | 16.69      | 17.50         |
|           |            | 36      | 18        | 16.54                   | 16.66      | 16.81      | 17.50         |
|           |            | 36      | 39        | 16.71                   | 16.84      | 16.87      | 17.50         |
|           |            | 75      | 0         | 16.75                   | 16.46      | 16.65      | 17.50         |
|           | 64QAM      | 1       | 0         | 16.40                   | 16.71      | 16.53      | 17.50         |
|           |            | 1       | 38        | 16.67                   | 16.67      | 17.34      | 17.50         |
|           |            | 1       | 74        | 16.57                   | 16.76      | 16.59      | 17.50         |
|           |            | 36      | 0         | 16.63                   | 16.50      | 16.57      | 17.50         |
|           |            | 36      | 18        | 16.65                   | 16.60      | 16.80      | 17.50         |
|           |            | 36      | 39        | 16.45                   | 16.62      | 16.62      | 17.50         |
|           |            | 75      | 0         | 16.67                   | 16.44      | 16.69      | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 18700/1860              | 18900/1880 | 19100/1900 |               |
| 20MHz     | QPSK       | 1       | 0         | 16.41                   | 16.52      | 16.53      | 17.45         |
|           |            | 1       | 50        | 16.57                   | 16.64      | 16.54      | 17.45         |
|           |            | 1       | 99        | 16.56                   | 16.70      | 16.72      | 17.45         |
|           |            | 50      | 0         | 16.63                   | 16.42      | 16.53      | 17.45         |
|           |            | 50      | 25        | 16.75                   | 16.59      | 16.75      | 17.45         |
|           |            | 50      | 50        | 16.52                   | 16.60      | 16.62      | 17.45         |
|           |            | 100     | 0         | 16.75                   | 16.44      | 16.71      | 17.45         |
|           | 16QAM      | 1       | 0         | 16.53                   | 15.57      | 16.64      | 17.45         |
|           |            | 1       | 50        | 16.64                   | 17.23      | 16.61      | 17.45         |
|           |            | 1       | 99        | 16.77                   | 17.17      | 16.63      | 17.45         |
|           |            | 50      | 0         | 16.63                   | 16.39      | 16.66      | 17.45         |
|           |            | 50      | 25        | 16.51                   | 16.64      | 16.78      | 17.45         |
|           |            | 50      | 50        | 16.68                   | 16.79      | 16.83      | 17.45         |
|           |            | 100     | 0         | 16.73                   | 16.42      | 16.62      | 17.45         |
|           | 64QAM      | 1       | 0         | 16.38                   | 16.67      | 16.48      | 17.45         |
|           |            | 1       | 50        | 16.63                   | 16.65      | 17.30      | 17.45         |
|           |            | 1       | 99        | 16.55                   | 16.73      | 16.57      | 17.45         |
|           |            | 50      | 0         | 16.60                   | 16.46      | 16.54      | 17.45         |
|           |            | 50      | 25        | 16.62                   | 16.58      | 16.77      | 17.45         |
|           |            | 50      | 50        | 16.42                   | 16.57      | 16.58      | 17.45         |
|           |            | 100     | 0         | 16.65                   | 16.40      | 16.66      | 17.45         |



| LTE FDD Band 2<br>(REC On+Right Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |            |              |               |
|------------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                                |            |         |           | 18607/1850.7            | 18900/1880 | 19193/1909.3 |               |
| 1.4MHz                                         | QPSK       | 1       | 0         | 13.86                   | 13.90      | 13.86        | 14.00         |
|                                                |            | 1       | 2         | 12.79                   | 13.77      | 13.84        | 14.00         |
|                                                |            | 1       | 5         | 13.85                   | 13.80      | 13.94        | 14.00         |
|                                                |            | 3       | 0         | 13.71                   | 13.92      | 13.76        | 14.00         |
|                                                |            | 3       | 2         | 13.66                   | 13.80      | 13.74        | 14.00         |
|                                                |            | 3       | 3         | 13.77                   | 13.83      | 13.77        | 14.00         |
|                                                |            | 6       | 0         | 13.63                   | 13.77      | 13.85        | 14.00         |
|                                                | 16QAM      | 1       | 0         | 13.87                   | 13.91      | 13.82        | 14.00         |
|                                                |            | 1       | 2         | 13.32                   | 13.89      | 13.22        | 14.00         |
|                                                |            | 1       | 5         | 13.85                   | 13.84      | 13.82        | 14.00         |
|                                                |            | 3       | 0         | 13.72                   | 13.76      | 13.77        | 14.00         |
|                                                |            | 3       | 2         | 13.77                   | 13.80      | 13.74        | 14.00         |
|                                                |            | 3       | 3         | 13.66                   | 13.83      | 13.69        | 14.00         |
|                                                |            | 6       | 0         | 13.69                   | 13.73      | 13.80        | 14.00         |
|                                                | 64QAM      | 1       | 0         | 13.77                   | 13.89      | 13.86        | 14.00         |
|                                                |            | 1       | 2         | 13.10                   | 13.63      | 13.33        | 14.00         |
|                                                |            | 1       | 5         | 13.70                   | 13.84      | 13.62        | 14.00         |
|                                                |            | 3       | 0         | 13.67                   | 13.70      | 13.76        | 14.00         |
|                                                |            | 3       | 2         | 13.67                   | 13.70      | 13.72        | 14.00         |
|                                                |            | 3       | 3         | 13.66                   | 13.79      | 13.69        | 14.00         |
|                                                |            | 6       | 0         | 13.64                   | 13.85      | 13.75        | 14.00         |
| Bandwidth                                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                                |            |         |           | 18615/1851.5            | 18900/1880 | 19185/1908.5 |               |
| 3MHz                                           | QPSK       | 1       | 0         | 13.84                   | 13.83      | 13.84        | 14.00         |
|                                                |            | 1       | 7         | 12.79                   | 13.77      | 13.83        | 14.00         |
|                                                |            | 1       | 14        | 13.82                   | 13.78      | 13.90        | 14.00         |
|                                                |            | 8       | 0         | 13.69                   | 13.88      | 13.73        | 14.00         |
|                                                |            | 8       | 4         | 13.64                   | 13.76      | 13.71        | 14.00         |
|                                                |            | 8       | 7         | 13.73                   | 13.79      | 13.74        | 14.00         |
|                                                |            | 15      | 0         | 13.66                   | 13.70      | 13.80        | 14.00         |
|                                                | 16QAM      | 1       | 0         | 13.82                   | 13.88      | 13.77        | 14.00         |
|                                                |            | 1       | 7         | 13.29                   | 13.88      | 13.19        | 14.00         |
|                                                |            | 1       | 14        | 13.83                   | 13.79      | 13.80        | 14.00         |
|                                                |            | 8       | 0         | 13.69                   | 13.75      | 13.75        | 14.00         |
|                                                |            | 8       | 4         | 13.73                   | 13.77      | 13.70        | 14.00         |
|                                                |            | 8       | 7         | 13.64                   | 13.79      | 13.66        | 14.00         |
|                                                |            | 15      | 0         | 13.67                   | 13.69      | 13.77        | 14.00         |
|                                                | 64QAM      | 1       | 0         | 13.72                   | 13.86      | 13.81        | 14.00         |
|                                                |            | 1       | 7         | 13.07                   | 13.62      | 13.30        | 14.00         |



|           |            | 1       | 14        | 13.68                   | 13.79      | 13.60        | 14.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 8       | 0         | 13.64                   | 13.69      | 13.74        | 14.00         |
|           |            | 8       | 4         | 13.63                   | 13.67      | 13.68        | 14.00         |
|           |            | 8       | 7         | 13.64                   | 13.75      | 13.66        | 14.00         |
|           |            | 15      | 0         | 13.62                   | 13.81      | 13.72        | 14.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18625/1852.5            | 18900/1880 | 19175/1907.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 13.81                   | 13.81      | 13.80        | 14.00         |
|           |            | 1       | 13        | 12.77                   | 13.73      | 13.80        | 14.00         |
|           |            | 1       | 24        | 13.79                   | 13.73      | 13.86        | 14.00         |
|           |            | 12      | 0         | 13.66                   | 13.83      | 13.69        | 14.00         |
|           |            | 12      | 6         | 13.62                   | 13.72      | 13.66        | 14.00         |
|           |            | 12      | 13        | 13.71                   | 13.77      | 13.70        | 14.00         |
|           |            | 25      | 0         | 13.64                   | 13.69      | 13.78        | 14.00         |
|           | 16QAM      | 1       | 0         | 13.79                   | 13.84      | 13.74        | 14.00         |
|           |            | 1       | 13        | 13.26                   | 13.86      | 13.16        | 14.00         |
|           |            | 1       | 24        | 13.80                   | 13.77      | 13.76        | 14.00         |
|           |            | 12      | 0         | 13.67                   | 13.71      | 13.72        | 14.00         |
|           |            | 12      | 6         | 13.70                   | 13.72      | 13.66        | 14.00         |
|           |            | 12      | 13        | 13.61                   | 13.74      | 13.62        | 14.00         |
|           |            | 25      | 0         | 13.65                   | 13.65      | 13.72        | 14.00         |
|           | 64QAM      | 1       | 0         | 13.69                   | 13.82      | 13.78        | 14.00         |
|           |            | 1       | 13        | 13.04                   | 13.60      | 13.27        | 14.00         |
|           |            | 1       | 24        | 13.65                   | 13.77      | 13.56        | 14.00         |
|           |            | 12      | 0         | 13.62                   | 13.65      | 13.71        | 14.00         |
|           |            | 12      | 6         | 13.60                   | 13.62      | 13.64        | 14.00         |
|           |            | 12      | 13        | 13.61                   | 13.70      | 13.62        | 14.00         |
|           |            | 25      | 0         | 13.60                   | 13.77      | 13.67        | 14.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18650/1855              | 18900/1880 | 19150/1905   |               |
| 10MHz     | QPSK       | 1       | 0         | 13.83                   | 13.82      | 13.83        | 14.00         |
|           |            | 1       | 25        | 12.80                   | 13.78      | 13.84        | 14.00         |
|           |            | 1       | 49        | 13.81                   | 13.77      | 13.89        | 14.00         |
|           |            | 25      | 0         | 13.69                   | 13.88      | 13.73        | 14.00         |
|           |            | 25      | 13        | 13.65                   | 13.77      | 13.70        | 14.00         |
|           |            | 25      | 25        | 13.73                   | 13.81      | 13.75        | 14.00         |
|           |            | 50      | 0         | 13.72                   | 13.71      | 13.82        | 14.00         |
|           | 16QAM      | 1       | 0         | 13.81                   | 13.87      | 13.76        | 14.00         |
|           |            | 1       | 25        | 13.29                   | 13.90      | 13.19        | 14.00         |
|           |            | 1       | 49        | 13.83                   | 13.79      | 13.79        | 14.00         |
|           |            | 25      | 0         | 13.70                   | 13.76      | 13.76        | 14.00         |
|           |            | 25      | 13        | 13.72                   | 13.76      | 13.69        | 14.00         |
|           |            | 25      | 25        | 13.64                   | 13.79      | 13.66        | 14.00         |



|           | 64QAM      | 50      | 0         | 13.68                   | 13.70      | 13.76        | 14.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 1       | 0         | 13.71                   | 13.85      | 13.80        | 14.00         |
|           |            | 1       | 25        | 13.07                   | 13.64      | 13.30        | 14.00         |
|           |            | 1       | 49        | 13.68                   | 13.79      | 13.59        | 14.00         |
|           |            | 25      | 0         | 13.65                   | 13.70      | 13.75        | 14.00         |
|           |            | 25      | 13        | 13.62                   | 13.66      | 13.67        | 14.00         |
|           |            | 25      | 25        | 13.64                   | 13.75      | 13.66        | 14.00         |
|           |            | 50      | 0         | 13.63                   | 13.82      | 13.71        | 14.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18675/1857.5            | 18900/1880 | 19125/1902.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 13.82                   | 13.78      | 13.81        | 14.00         |
|           |            | 1       | 38        | 12.78                   | 13.77      | 13.81        | 14.00         |
|           |            | 1       | 74        | 13.78                   | 13.72      | 13.85        | 14.00         |
|           |            | 36      | 0         | 13.67                   | 13.84      | 13.70        | 14.00         |
|           |            | 36      | 18        | 13.62                   | 13.72      | 13.66        | 14.00         |
|           |            | 36      | 39        | 13.70                   | 13.78      | 13.71        | 14.00         |
|           |            | 75      | 0         | 13.70                   | 13.67      | 13.77        | 14.00         |
|           | 16QAM      | 1       | 0         | 13.76                   | 13.85      | 13.74        | 14.00         |
|           |            | 1       | 38        | 13.27                   | 13.87      | 13.17        | 14.00         |
|           |            | 1       | 74        | 13.80                   | 13.75      | 13.76        | 14.00         |
|           |            | 36      | 0         | 13.67                   | 13.74      | 13.73        | 14.00         |
|           |            | 36      | 18        | 13.69                   | 13.71      | 13.65        | 14.00         |
|           |            | 36      | 39        | 13.62                   | 13.75      | 13.63        | 14.00         |
|           |            | 75      | 0         | 13.65                   | 13.65      | 13.72        | 14.00         |
|           | 64QAM      | 1       | 0         | 13.66                   | 13.83      | 13.78        | 14.00         |
|           |            | 1       | 38        | 13.05                   | 13.61      | 13.28        | 14.00         |
|           |            | 1       | 74        | 13.65                   | 13.75      | 13.56        | 14.00         |
|           |            | 36      | 0         | 13.62                   | 13.68      | 13.72        | 14.00         |
|           |            | 36      | 18        | 13.59                   | 13.61      | 13.63        | 14.00         |
|           |            | 36      | 39        | 13.62                   | 13.71      | 13.63        | 14.00         |
|           |            | 75      | 0         | 13.60                   | 13.77      | 13.67        | 14.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18700/1860              | 18900/1880 | 19100/1900   |               |
| 20MHz     | QPSK       | 1       | 0         | 13.79                   | 13.74      | 13.78        | 14.00         |
|           |            | 1       | 50        | 12.77                   | 13.73      | 13.79        | 14.00         |
|           |            | 1       | 99        | 13.76                   | 13.71      | 13.82        | 14.00         |
|           |            | 50      | 0         | 13.64                   | 13.79      | 13.66        | 14.00         |
|           |            | 50      | 25        | 13.60                   | 13.68      | 13.63        | 14.00         |
|           |            | 50      | 50        | 13.67                   | 13.73      | 13.67        | 14.00         |
|           |            | 100     | 0         | 13.67                   | 13.62      | 13.73        | 14.00         |
|           | 16QAM      | 1       | 0         | 13.74                   | 13.81      | 13.69        | 14.00         |
|           |            | 1       | 50        | 13.23                   | 13.85      | 13.13        | 14.00         |
|           |            | 1       | 99        | 13.78                   | 13.72      | 13.74        | 14.00         |





|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  |       | 50  | 0  | 13.64 | 13.70 | 13.70 | 14.00 |
|  |       | 50  | 25 | 13.66 | 13.69 | 13.62 | 14.00 |
|  |       | 50  | 50 | 13.59 | 13.70 | 13.59 | 14.00 |
|  |       | 100 | 0  | 13.63 | 13.61 | 13.69 | 14.00 |
|  | 64QAM | 1   | 0  | 13.64 | 13.79 | 13.73 | 14.00 |
|  |       | 1   | 50 | 13.01 | 13.59 | 13.24 | 14.00 |
|  |       | 1   | 99 | 13.63 | 13.72 | 13.54 | 14.00 |
|  |       | 50  | 0  | 13.59 | 13.64 | 13.69 | 14.00 |
|  |       | 50  | 25 | 13.56 | 13.59 | 13.60 | 14.00 |
|  |       | 50  | 50 | 13.59 | 13.66 | 13.59 | 14.00 |
|  |       | 100 | 0  | 13.58 | 13.73 | 13.64 | 14.00 |

| LTE FDD Band 2<br>(REC Off) |            |         |           | Conducted Power(dBm)    |            |              |                  |
|-----------------------------|------------|---------|-----------|-------------------------|------------|--------------|------------------|
| Bandwidth                   | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                             |            |         |           | 18607/1850.7            | 18900/1880 | 19193/1909.3 |                  |
| 1.4MHz                      | QPSK       | 1       | 0         | 22.12                   | 22.24      | 22.17        | 22.50            |
|                             |            | 1       | 2         | 22.02                   | 21.84      | 21.93        | 22.50            |
|                             |            | 1       | 5         | 22.03                   | 22.05      | 22.03        | 22.50            |
|                             |            | 3       | 0         | 22.00                   | 22.16      | 22.15        | 22.50            |
|                             |            | 3       | 2         | 21.89                   | 22.10      | 22.12        | 22.50            |
|                             |            | 3       | 3         | 21.97                   | 22.13      | 22.10        | 22.50            |
|                             |            | 6       | 0         | 21.90                   | 22.11      | 22.09        | 22.50            |
|                             | 16QAM      | 1       | 0         | 22.23                   | 22.22      | 22.19        | 22.50            |
|                             |            | 1       | 2         | 22.08                   | 22.06      | 21.94        | 22.50            |
|                             |            | 1       | 5         | 21.88                   | 22.07      | 21.91        | 22.50            |
|                             |            | 3       | 0         | 21.87                   | 21.98      | 22.08        | 22.50            |
|                             |            | 3       | 2         | 22.01                   | 22.00      | 22.01        | 22.50            |
|                             |            | 3       | 3         | 21.89                   | 22.11      | 22.02        | 22.50            |
|                             |            | 6       | 0         | 21.91                   | 22.02      | 22.05        | 22.50            |
|                             | 64QAM      | 1       | 0         | 21.91                   | 22.11      | 22.31        | 22.50            |
|                             |            | 1       | 2         | 21.91                   | 22.02      | 21.86        | 22.50            |
|                             |            | 1       | 5         | 22.09                   | 22.17      | 22.13        | 22.50            |
|                             |            | 3       | 0         | 21.82                   | 21.85      | 21.93        | 22.50            |
|                             |            | 3       | 2         | 21.77                   | 21.82      | 21.82        | 22.50            |
|                             |            | 3       | 3         | 21.72                   | 21.96      | 21.85        | 22.50            |
|                             |            | 6       | 0         | 21.26                   | 21.41      | 21.41        | 21.50            |
| Bandwidth                   | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                             |            |         |           | 18615/1851.5            | 18900/1880 | 19185/1908.5 |                  |
| 3MHz                        | QPSK       | 1       | 0         | 22.08                   | 22.16      | 22.12        | 22.50            |
|                             |            | 1       | 7         | 21.99                   | 21.79      | 21.88        | 22.50            |
|                             |            | 1       | 14        | 21.98                   | 21.99      | 21.96        | 22.50            |
|                             |            | 8       | 0         | 21.95                   | 22.07      | 22.08        | 22.50            |



|           |            | 8       | 4         | 21.84                   | 22.01      | 22.05        | 22.50         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 8       | 7         | 21.91                   | 22.05      | 22.02        | 22.50         |
|           |            | 15      | 0         | 21.85                   | 22.02      | 22.00        | 22.50         |
|           | 16QAM      | 1       | 0         | 22.16                   | 22.16      | 22.12        | 22.50         |
|           |            | 1       | 7         | 22.02                   | 22.01      | 21.88        | 22.50         |
|           |            | 1       | 14        | 21.83                   | 22.00      | 21.86        | 22.50         |
|           |            | 8       | 0         | 21.81                   | 21.92      | 22.02        | 22.50         |
|           |            | 8       | 4         | 21.95                   | 21.93      | 21.94        | 22.50         |
|           |            | 8       | 7         | 21.84                   | 22.02      | 21.95        | 22.50         |
|           |            | 15      | 0         | 21.86                   | 21.93      | 21.98        | 22.50         |
|           | 64QAM      | 1       | 0         | 21.84                   | 22.05      | 22.24        | 22.50         |
|           |            | 1       | 7         | 21.85                   | 21.97      | 21.80        | 22.50         |
|           |            | 1       | 14        | 22.04                   | 22.10      | 22.08        | 22.50         |
|           |            | 8       | 0         | 21.29                   | 21.32      | 21.40        | 21.50         |
|           |            | 8       | 4         | 21.24                   | 21.28      | 21.28        | 21.50         |
|           |            | 8       | 7         | 21.20                   | 21.40      | 21.31        | 21.50         |
|           |            | 15      | 0         | 21.21                   | 21.32      | 21.34        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18625/1852.5            | 18900/1880 | 19175/1907.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 22.05                   | 22.14      | 22.08        | 22.50         |
|           |            | 1       | 13        | 21.97                   | 21.75      | 21.85        | 22.50         |
|           |            | 1       | 24        | 21.95                   | 21.94      | 21.92        | 22.50         |
|           |            | 12      | 0         | 21.92                   | 22.02      | 22.04        | 22.50         |
|           |            | 12      | 6         | 21.82                   | 21.97      | 22.00        | 22.50         |
|           |            | 12      | 13        | 21.89                   | 22.03      | 21.98        | 22.50         |
|           |            | 25      | 0         | 21.83                   | 22.01      | 21.98        | 22.50         |
|           | 16QAM      | 1       | 0         | 22.13                   | 22.12      | 22.09        | 22.50         |
|           |            | 1       | 13        | 21.99                   | 21.99      | 21.85        | 22.50         |
|           |            | 1       | 24        | 21.80                   | 21.98      | 21.82        | 22.50         |
|           |            | 12      | 0         | 21.79                   | 21.88      | 21.99        | 22.50         |
|           |            | 12      | 6         | 21.92                   | 21.88      | 21.90        | 22.50         |
|           |            | 12      | 13        | 21.81                   | 21.97      | 21.91        | 22.50         |
|           |            | 25      | 0         | 21.84                   | 21.89      | 21.93        | 22.50         |
|           | 64QAM      | 1       | 0         | 21.81                   | 22.01      | 22.21        | 22.50         |
|           |            | 1       | 13        | 21.82                   | 21.95      | 21.77        | 22.50         |
|           |            | 1       | 24        | 22.01                   | 22.08      | 22.04        | 22.50         |
|           |            | 12      | 0         | 21.27                   | 21.28      | 21.37        | 21.50         |
|           |            | 12      | 6         | 21.21                   | 21.23      | 21.24        | 21.50         |
|           |            | 12      | 13        | 21.17                   | 21.35      | 21.27        | 21.50         |
|           |            | 25      | 0         | 21.19                   | 21.28      | 21.29        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18650/1855              | 18900/1880 | 19150/1905   |               |
| 10MHz     | QPSK       | 1       | 0         | 22.07                   | 22.15      | 22.11        | 22.50         |



|           |            | 1       | 25        | 22.00                   | 21.80      | 21.89        | 22.50         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 1       | 49        | 21.97                   | 21.98      | 21.95        | 22.50         |
|           |            | 25      | 0         | 21.95                   | 22.07      | 22.08        | 22.50         |
|           |            | 25      | 13        | 21.85                   | 22.02      | 22.04        | 22.50         |
|           |            | 25      | 25        | 21.91                   | 22.07      | 22.03        | 22.50         |
|           |            | 50      | 0         | 21.91                   | 22.03      | 22.02        | 22.50         |
|           | 16QAM      | 1       | 0         | 22.15                   | 22.15      | 22.11        | 22.50         |
|           |            | 1       | 25        | 22.02                   | 22.03      | 21.88        | 22.50         |
|           |            | 1       | 49        | 21.83                   | 22.00      | 21.85        | 22.50         |
|           |            | 25      | 0         | 21.82                   | 21.93      | 22.03        | 22.50         |
|           |            | 25      | 13        | 21.94                   | 21.92      | 21.93        | 22.50         |
|           |            | 25      | 25        | 21.84                   | 22.02      | 21.95        | 22.50         |
|           |            | 50      | 0         | 21.87                   | 21.94      | 21.97        | 22.50         |
|           | 64QAM      | 1       | 0         | 21.83                   | 22.04      | 22.23        | 22.50         |
|           |            | 1       | 25        | 21.85                   | 21.99      | 21.80        | 22.50         |
|           |            | 1       | 49        | 22.04                   | 22.10      | 22.07        | 22.50         |
|           |            | 25      | 0         | 21.30                   | 21.33      | 21.41        | 21.50         |
|           |            | 25      | 13        | 21.23                   | 21.27      | 21.27        | 21.50         |
|           |            | 25      | 25        | 21.20                   | 21.40      | 21.31        | 21.50         |
|           |            | 50      | 0         | 21.22                   | 21.33      | 21.33        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18675/1857.5            | 18900/1880 | 19125/1902.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 22.06                   | 22.11      | 22.09        | 22.50         |
|           |            | 1       | 38        | 21.98                   | 21.79      | 21.86        | 22.50         |
|           |            | 1       | 74        | 21.94                   | 21.93      | 21.91        | 22.50         |
|           |            | 36      | 0         | 21.93                   | 22.03      | 22.05        | 22.50         |
|           |            | 36      | 18        | 21.82                   | 21.97      | 22.00        | 22.50         |
|           |            | 36      | 39        | 21.88                   | 22.04      | 21.99        | 22.50         |
|           |            | 75      | 0         | 21.89                   | 21.99      | 21.97        | 22.50         |
|           | 16QAM      | 1       | 0         | 22.10                   | 22.13      | 22.09        | 22.50         |
|           |            | 1       | 38        | 22.00                   | 22.00      | 21.86        | 22.50         |
|           |            | 1       | 74        | 21.80                   | 21.96      | 21.82        | 22.50         |
|           |            | 36      | 0         | 21.79                   | 21.91      | 22.00        | 22.50         |
|           |            | 36      | 18        | 21.91                   | 21.87      | 21.89        | 22.50         |
|           |            | 36      | 39        | 21.82                   | 21.98      | 21.92        | 22.50         |
|           |            | 75      | 0         | 21.84                   | 21.89      | 21.93        | 22.50         |
|           | 64QAM      | 1       | 0         | 21.78                   | 22.02      | 22.21        | 22.50         |
|           |            | 1       | 38        | 21.83                   | 21.96      | 21.78        | 22.50         |
|           |            | 1       | 74        | 22.01                   | 22.06      | 22.04        | 22.50         |
|           |            | 36      | 0         | 21.27                   | 21.31      | 21.38        | 21.50         |
|           |            | 36      | 18        | 21.20                   | 21.22      | 21.23        | 21.50         |
|           |            | 36      | 39        | 21.18                   | 21.36      | 21.28        | 21.50         |
|           |            | 75      | 0         | 21.19                   | 21.28      | 21.29        | 21.50         |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            |         |           | 18700/1860              | 18900/1880 | 19100/1900 |               |
| 20MHz     | QPSK       | 1       | 0         | 22.03                   | 22.07      | 22.06      | 22.50         |
|           |            | 1       | 50        | 21.97                   | 21.75      | 21.84      | 22.50         |
|           |            | 1       | 99        | 21.92                   | 21.92      | 21.88      | 22.50         |
|           |            | 50      | 0         | 21.90                   | 21.98      | 22.01      | 22.50         |
|           |            | 50      | 25        | 21.80                   | 21.93      | 21.97      | 22.50         |
|           |            | 50      | 50        | 21.85                   | 21.99      | 21.95      | 22.50         |
|           |            | 100     | 0         | 21.86                   | 21.94      | 21.93      | 22.50         |
|           | 16QAM      | 1       | 0         | 22.08                   | 22.09      | 22.04      | 22.50         |
|           |            | 1       | 50        | 21.96                   | 21.98      | 21.82      | 22.50         |
|           |            | 1       | 99        | 21.78                   | 21.93      | 21.80      | 22.50         |
|           |            | 50      | 0         | 21.76                   | 21.87      | 21.97      | 22.50         |
|           |            | 50      | 25        | 21.88                   | 21.85      | 21.86      | 22.50         |
|           |            | 50      | 50        | 21.79                   | 21.93      | 21.88      | 22.50         |
|           |            | 100     | 0         | 21.82                   | 21.85      | 21.90      | 22.50         |
|           | 64QAM      | 1       | 0         | 21.76                   | 21.98      | 22.16      | 22.50         |
|           |            | 1       | 50        | 21.79                   | 21.94      | 21.74      | 22.50         |
|           |            | 1       | 99        | 21.99                   | 22.03      | 22.02      | 22.50         |
|           |            | 50      | 0         | 21.24                   | 21.27      | 21.35      | 21.50         |
|           |            | 50      | 25        | 21.17                   | 21.20      | 21.20      | 21.50         |
|           |            | 50      | 50        | 21.15                   | 21.31      | 21.24      | 21.50         |
|           |            | 100     | 0         | 21.17                   | 21.24      | 21.26      | 21.50         |

| LTE FDD Band 2<br>(REC Off+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |            |              |               |
|--------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                            | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                      |            |         |           | 18607/1850.7            | 18900/1880 | 19193/1909.3 |               |
| 1.4MHz                               | QPSK       | 1       | 0         | 18.95                   | 19.14      | 19.07        | 19.50         |
|                                      |            | 1       | 2         | 18.94                   | 19.11      | 18.84        | 19.50         |
|                                      |            | 1       | 5         | 18.86                   | 19.00      | 18.99        | 19.50         |
|                                      |            | 3       | 0         | 18.96                   | 18.97      | 19.06        | 19.50         |
|                                      |            | 3       | 2         | 18.91                   | 19.00      | 19.08        | 19.50         |
|                                      |            | 3       | 3         | 18.91                   | 18.97      | 18.99        | 19.50         |
|                                      |            | 6       | 0         | 18.79                   | 19.03      | 18.96        | 19.50         |
|                                      | 16QAM      | 1       | 0         | 19.08                   | 19.10      | 19.16        | 19.50         |
|                                      |            | 1       | 2         | 18.95                   | 18.77      | 19.04        | 19.50         |
|                                      |            | 1       | 5         | 19.04                   | 19.10      | 19.15        | 19.50         |
|                                      |            | 3       | 0         | 18.88                   | 18.84      | 18.92        | 19.50         |
|                                      |            | 3       | 2         | 18.83                   | 18.95      | 18.99        | 19.50         |
|                                      |            | 3       | 3         | 18.84                   | 19.00      | 18.93        | 19.50         |
|                                      |            | 6       | 0         | 18.74                   | 18.81      | 18.97        | 19.50         |
|                                      | 64QAM      | 1       | 0         | 19.06                   | 19.13      | 19.12        | 19.50         |



|           |            | 1       | 2         | 18.90                   | 18.84      | 18.94        | 19.50         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 1       | 5         | 18.99                   | 19.24      | 19.10        | 19.50         |
|           |            | 3       | 0         | 18.90                   | 18.97      | 18.95        | 19.50         |
|           |            | 3       | 2         | 18.86                   | 18.93      | 18.91        | 19.50         |
|           |            | 3       | 3         | 18.82                   | 19.00      | 18.94        | 19.50         |
|           |            | 6       | 0         | 18.76                   | 18.83      | 18.88        | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18615/1851.5            | 18900/1880 | 19185/1908.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 18.92                   | 19.10      | 19.04        | 19.50         |
|           |            | 1       | 7         | 18.93                   | 19.07      | 18.82        | 19.50         |
|           |            | 1       | 14        | 18.84                   | 18.99      | 18.96        | 19.50         |
|           |            | 8       | 0         | 18.93                   | 18.92      | 19.02        | 19.50         |
|           |            | 8       | 4         | 18.89                   | 18.96      | 19.05        | 19.50         |
|           |            | 8       | 7         | 18.88                   | 18.92      | 18.95        | 19.50         |
|           |            | 15      | 0         | 18.76                   | 18.98      | 18.92        | 19.50         |
|           | 16QAM      | 1       | 0         | 19.06                   | 19.06      | 19.11        | 19.50         |
|           |            | 1       | 7         | 18.91                   | 18.75      | 19.00        | 19.50         |
|           |            | 1       | 14        | 19.02                   | 19.07      | 19.13        | 19.50         |
|           |            | 8       | 0         | 18.85                   | 18.80      | 18.89        | 19.50         |
|           |            | 8       | 4         | 18.80                   | 18.93      | 18.96        | 19.50         |
|           |            | 8       | 7         | 18.81                   | 18.95      | 18.89        | 19.50         |
|           |            | 15      | 0         | 18.72                   | 18.77      | 18.94        | 19.50         |
|           | 64QAM      | 1       | 0         | 19.04                   | 19.09      | 19.07        | 19.50         |
|           |            | 1       | 7         | 18.86                   | 18.82      | 18.90        | 19.50         |
|           |            | 1       | 14        | 18.97                   | 19.21      | 19.08        | 19.50         |
|           |            | 8       | 0         | 18.87                   | 18.93      | 18.92        | 19.50         |
|           |            | 8       | 4         | 18.83                   | 18.91      | 18.88        | 19.50         |
|           |            | 8       | 7         | 18.79                   | 18.95      | 18.90        | 19.50         |
|           |            | 15      | 0         | 18.74                   | 18.79      | 18.85        | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18625/1852.5            | 18900/1880 | 19175/1907.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 18.89                   | 19.08      | 19.00        | 19.50         |
|           |            | 1       | 13        | 18.91                   | 19.03      | 18.79        | 19.50         |
|           |            | 1       | 24        | 18.81                   | 18.94      | 18.92        | 19.50         |
|           |            | 12      | 0         | 18.90                   | 18.87      | 18.98        | 19.50         |
|           |            | 12      | 6         | 18.87                   | 18.92      | 19.00        | 19.50         |
|           |            | 12      | 13        | 18.86                   | 18.90      | 18.91        | 19.50         |
|           |            | 25      | 0         | 18.74                   | 18.97      | 18.90        | 19.50         |
|           | 16QAM      | 1       | 0         | 19.03                   | 19.02      | 19.08        | 19.50         |
|           |            | 1       | 13        | 18.88                   | 18.73      | 18.97        | 19.50         |
|           |            | 1       | 24        | 18.99                   | 19.05      | 19.09        | 19.50         |
|           |            | 12      | 0         | 18.83                   | 18.76      | 18.86        | 19.50         |
|           |            | 12      | 6         | 18.77                   | 18.88      | 18.92        | 19.50         |



|           |            | 12      | 13        | 18.78                   | 18.90      | 18.85        | 19.50         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 25      | 0         | 18.70                   | 18.73      | 18.89        | 19.50         |
|           | 64QAM      | 1       | 0         | 19.01                   | 19.05      | 19.04        | 19.50         |
|           |            | 1       | 13        | 18.83                   | 18.80      | 18.87        | 19.50         |
|           |            | 1       | 24        | 18.94                   | 19.19      | 19.04        | 19.50         |
|           |            | 12      | 0         | 18.85                   | 18.89      | 18.89        | 19.50         |
|           |            | 12      | 6         | 18.80                   | 18.86      | 18.84        | 19.50         |
|           |            | 12      | 13        | 18.76                   | 18.90      | 18.86        | 19.50         |
|           |            | 25      | 0         | 18.72                   | 18.75      | 18.80        | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18650/1855              | 18900/1880 | 19150/1905   |               |
| 10MHz     | QPSK       | 1       | 0         | 18.91                   | 19.09      | 19.03        | 19.50         |
|           |            | 1       | 25        | 18.94                   | 19.08      | 18.83        | 19.50         |
|           |            | 1       | 49        | 18.83                   | 18.98      | 18.95        | 19.50         |
|           |            | 25      | 0         | 18.93                   | 18.92      | 19.02        | 19.50         |
|           |            | 25      | 13        | 18.90                   | 18.97      | 19.04        | 19.50         |
|           |            | 25      | 25        | 18.88                   | 18.94      | 18.96        | 19.50         |
|           |            | 50      | 0         | 18.82                   | 18.99      | 18.94        | 19.50         |
|           | 16QAM      | 1       | 0         | 19.05                   | 19.05      | 19.10        | 19.50         |
|           |            | 1       | 25        | 18.91                   | 18.77      | 19.00        | 19.50         |
|           |            | 1       | 49        | 19.02                   | 19.07      | 19.12        | 19.50         |
|           |            | 25      | 0         | 18.86                   | 18.81      | 18.90        | 19.50         |
|           |            | 25      | 13        | 18.79                   | 18.92      | 18.95        | 19.50         |
|           |            | 25      | 25        | 18.81                   | 18.95      | 18.89        | 19.50         |
|           |            | 50      | 0         | 18.73                   | 18.78      | 18.93        | 19.50         |
|           | 64QAM      | 1       | 0         | 19.03                   | 19.08      | 19.06        | 19.50         |
|           |            | 1       | 25        | 18.86                   | 18.84      | 18.90        | 19.50         |
|           |            | 1       | 49        | 18.97                   | 19.21      | 19.07        | 19.50         |
|           |            | 25      | 0         | 18.88                   | 18.94      | 18.93        | 19.50         |
|           |            | 25      | 13        | 18.82                   | 18.90      | 18.87        | 19.50         |
|           |            | 25      | 25        | 18.79                   | 18.95      | 18.90        | 19.50         |
|           |            | 50      | 0         | 18.75                   | 18.80      | 18.84        | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 18675/1857.5            | 18900/1880 | 19125/1902.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 18.90                   | 19.05      | 19.01        | 19.50         |
|           |            | 1       | 38        | 18.92                   | 19.07      | 18.80        | 19.50         |
|           |            | 1       | 74        | 18.80                   | 18.93      | 18.91        | 19.50         |
|           |            | 36      | 0         | 18.91                   | 18.88      | 18.99        | 19.50         |
|           |            | 36      | 18        | 18.87                   | 18.92      | 19.00        | 19.50         |
|           |            | 36      | 39        | 18.85                   | 18.91      | 18.92        | 19.50         |
|           |            | 75      | 0         | 18.80                   | 18.95      | 18.89        | 19.50         |
|           | 16QAM      | 1       | 0         | 19.00                   | 19.03      | 19.08        | 19.50         |
|           |            | 1       | 38        | 18.89                   | 18.74      | 18.98        | 19.50         |



|           |            | 1       | 74        | 18.99                   | 19.03      | 19.09      | 19.50         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 36      | 0         | 18.83                   | 18.79      | 18.87      | 19.50         |
|           |            | 36      | 18        | 18.76                   | 18.87      | 18.91      | 19.50         |
|           |            | 36      | 39        | 18.79                   | 18.91      | 18.86      | 19.50         |
|           |            | 75      | 0         | 18.70                   | 18.73      | 18.89      | 19.50         |
|           | 64QAM      | 1       | 0         | 18.98                   | 19.06      | 19.04      | 19.50         |
|           |            | 1       | 38        | 18.84                   | 18.81      | 18.88      | 19.50         |
|           |            | 1       | 74        | 18.94                   | 19.17      | 19.04      | 19.50         |
|           |            | 36      | 0         | 18.85                   | 18.92      | 18.90      | 19.50         |
|           |            | 36      | 18        | 18.79                   | 18.85      | 18.83      | 19.50         |
|           |            | 36      | 39        | 18.77                   | 18.91      | 18.87      | 19.50         |
|           |            | 75      | 0         | 18.72                   | 18.75      | 18.80      | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 18700/1860              | 18900/1880 | 19100/1900 |               |
| 20MHz     | QPSK       | 1       | 0         | 18.87                   | 19.01      | 18.98      | 19.50         |
|           |            | 1       | 50        | 18.91                   | 19.03      | 18.78      | 19.50         |
|           |            | 1       | 99        | 18.78                   | 18.92      | 18.88      | 19.50         |
|           |            | 50      | 0         | 18.88                   | 18.83      | 18.95      | 19.50         |
|           |            | 50      | 25        | 18.85                   | 18.88      | 18.97      | 19.50         |
|           |            | 50      | 50        | 18.82                   | 18.86      | 18.88      | 19.50         |
|           |            | 100     | 0         | 18.77                   | 18.90      | 18.85      | 19.50         |
|           | 16QAM      | 1       | 0         | 18.98                   | 18.99      | 19.03      | 19.50         |
|           |            | 1       | 50        | 18.85                   | 18.72      | 18.94      | 19.50         |
|           |            | 1       | 99        | 18.97                   | 19.00      | 19.07      | 19.50         |
|           |            | 50      | 0         | 18.80                   | 18.75      | 18.84      | 19.50         |
|           |            | 50      | 25        | 18.73                   | 18.85      | 18.88      | 19.50         |
|           |            | 50      | 50        | 18.76                   | 18.86      | 18.82      | 19.50         |
|           |            | 100     | 0         | 18.68                   | 18.69      | 18.86      | 19.50         |
|           | 64QAM      | 1       | 0         | 18.96                   | 19.02      | 18.99      | 19.50         |
|           |            | 1       | 50        | 18.80                   | 18.79      | 18.84      | 19.50         |
|           |            | 1       | 99        | 18.92                   | 19.14      | 19.02      | 19.50         |
|           |            | 50      | 0         | 18.82                   | 18.88      | 18.87      | 19.50         |
|           |            | 50      | 25        | 18.76                   | 18.83      | 18.80      | 19.50         |
|           |            | 50      | 50        | 18.74                   | 18.86      | 18.83      | 19.50         |
|           |            | 100     | 0         | 18.70                   | 18.71      | 18.77      | 19.50         |

| LTE FDD Band 4<br>(REC On+Left Head) |            |         |           | Conducted Power(dBm)    |              |              |               |
|--------------------------------------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
| Bandwidth                            | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|                                      |            |         |           | 19957/1710.7            | 20175/1732.5 | 20393/1754.3 |               |
| 1.4MHz                               | QPSK       | 1       | 0         | 19.85                   | 19.83        | 19.81        | 20.50         |
|                                      |            | 1       | 2         | 19.73                   | 19.66        | 19.59        | 20.50         |
|                                      |            | 1       | 5         | 19.69                   | 19.57        | 19.70        | 20.50         |



|           |            | 3       | 0         | 19.72                   | 19.67        | 19.62        | 20.50         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 3       | 2         | 19.71                   | 19.72        | 19.72        | 20.50         |
|           |            | 3       | 3         | 19.66                   | 19.52        | 19.65        | 20.50         |
|           |            | 6       | 0         | 19.51                   | 19.69        | 19.59        | 20.50         |
|           | 16QAM      | 1       | 0         | 19.87                   | 19.70        | 19.82        | 20.50         |
|           |            | 1       | 2         | 19.54                   | 19.76        | 19.81        | 20.50         |
|           |            | 1       | 5         | 19.53                   | 19.80        | 19.70        | 20.50         |
|           |            | 3       | 0         | 19.80                   | 19.60        | 19.56        | 20.50         |
|           |            | 3       | 2         | 19.72                   | 19.67        | 19.54        | 20.50         |
|           |            | 3       | 3         | 19.66                   | 19.56        | 19.62        | 20.50         |
|           |            | 6       | 0         | 19.67                   | 19.56        | 19.58        | 20.50         |
|           | 64QAM      | 1       | 0         | 19.81                   | 19.71        | 19.61        | 20.50         |
|           |            | 1       | 2         | 19.55                   | 19.64        | 19.81        | 20.50         |
|           |            | 1       | 5         | 19.61                   | 19.52        | 19.70        | 20.50         |
|           |            | 3       | 0         | 19.78                   | 19.56        | 19.51        | 20.50         |
|           |            | 3       | 2         | 19.69                   | 19.46        | 19.63        | 20.50         |
|           |            | 3       | 3         | 19.63                   | 19.65        | 19.49        | 20.50         |
|           |            | 6       | 0         | 19.66                   | 19.54        | 19.59        | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 19965/1711.5            | 20175/1732.5 | 20385/1753.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 19.82                   | 19.79        | 19.78        | 20.50         |
|           |            | 1       | 7         | 19.72                   | 19.62        | 19.57        | 20.50         |
|           |            | 1       | 14        | 19.67                   | 19.56        | 19.67        | 20.50         |
|           |            | 8       | 0         | 19.69                   | 19.62        | 19.58        | 20.50         |
|           |            | 8       | 4         | 19.69                   | 19.68        | 19.69        | 20.50         |
|           |            | 8       | 7         | 19.63                   | 19.47        | 19.61        | 20.50         |
|           |            | 15      | 0         | 19.48                   | 19.64        | 19.55        | 20.50         |
|           | 16QAM      | 1       | 0         | 19.85                   | 19.66        | 19.77        | 20.50         |
|           |            | 1       | 7         | 19.50                   | 19.74        | 19.77        | 20.50         |
|           |            | 1       | 14        | 19.51                   | 19.77        | 19.68        | 20.50         |
|           |            | 8       | 0         | 19.77                   | 19.56        | 19.53        | 20.50         |
|           |            | 8       | 4         | 19.69                   | 19.65        | 19.51        | 20.50         |
|           |            | 8       | 7         | 19.63                   | 19.51        | 19.58        | 20.50         |
|           |            | 15      | 0         | 19.65                   | 19.52        | 19.55        | 20.50         |
|           | 64QAM      | 1       | 0         | 19.79                   | 19.67        | 19.56        | 20.50         |
|           |            | 1       | 7         | 19.51                   | 19.62        | 19.77        | 20.50         |
|           |            | 1       | 14        | 19.59                   | 19.49        | 19.68        | 20.50         |
|           |            | 8       | 0         | 19.75                   | 19.52        | 19.48        | 20.50         |
|           |            | 8       | 4         | 19.66                   | 19.44        | 19.60        | 20.50         |
|           |            | 8       | 7         | 19.60                   | 19.60        | 19.45        | 20.50         |
|           |            | 15      | 0         | 19.64                   | 19.50        | 19.56        | 20.50         |





| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            |         |           | 19975/1712.5            | 20175/1732.5 | 20375/1752.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 19.79                   | 19.77        | 19.74        | 20.50         |
|           |            | 1       | 13        | 19.70                   | 19.58        | 19.54        | 20.50         |
|           |            | 1       | 24        | 19.64                   | 19.51        | 19.63        | 20.50         |
|           |            | 12      | 0         | 19.66                   | 19.57        | 19.54        | 20.50         |
|           |            | 12      | 6         | 19.67                   | 19.64        | 19.64        | 20.50         |
|           |            | 12      | 13        | 19.61                   | 19.45        | 19.57        | 20.50         |
|           |            | 25      | 0         | 19.46                   | 19.63        | 19.53        | 20.50         |
|           | 16QAM      | 1       | 0         | 19.82                   | 19.62        | 19.74        | 20.50         |
|           |            | 1       | 13        | 19.47                   | 19.72        | 19.74        | 20.50         |
|           |            | 1       | 24        | 19.48                   | 19.75        | 19.64        | 20.50         |
|           |            | 12      | 0         | 19.75                   | 19.52        | 19.50        | 20.50         |
|           |            | 12      | 6         | 19.66                   | 19.60        | 19.47        | 20.50         |
|           |            | 12      | 13        | 19.60                   | 19.46        | 19.54        | 20.50         |
|           |            | 25      | 0         | 19.63                   | 19.48        | 19.50        | 20.50         |
|           | 64QAM      | 1       | 0         | 19.76                   | 19.63        | 19.53        | 20.50         |
|           |            | 1       | 13        | 19.48                   | 19.60        | 19.74        | 20.50         |
|           |            | 1       | 24        | 19.56                   | 19.47        | 19.64        | 20.50         |
|           |            | 12      | 0         | 19.73                   | 19.48        | 19.45        | 20.50         |
|           |            | 12      | 6         | 19.63                   | 19.39        | 19.56        | 20.50         |
|           |            | 12      | 13        | 19.57                   | 19.55        | 19.41        | 20.50         |
|           |            | 25      | 0         | 19.62                   | 19.46        | 19.51        | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20000/1715              | 20175/1732.5 | 20350/1750   |               |
| 10MHz     | QPSK       | 1       | 0         | 19.81                   | 19.78        | 19.77        | 20.50         |
|           |            | 1       | 25        | 19.73                   | 19.63        | 19.58        | 20.50         |
|           |            | 1       | 49        | 19.66                   | 19.55        | 19.66        | 20.50         |
|           |            | 25      | 0         | 19.69                   | 19.62        | 19.58        | 20.50         |
|           |            | 25      | 13        | 19.70                   | 19.69        | 19.68        | 20.50         |
|           |            | 25      | 25        | 19.63                   | 19.49        | 19.62        | 20.50         |
|           |            | 50      | 0         | 19.54                   | 19.65        | 19.57        | 20.50         |
|           | 16QAM      | 1       | 0         | 19.84                   | 19.65        | 19.76        | 20.50         |
|           |            | 1       | 25        | 19.50                   | 19.76        | 19.77        | 20.50         |
|           |            | 1       | 49        | 19.51                   | 19.77        | 19.67        | 20.50         |
|           |            | 25      | 0         | 19.78                   | 19.57        | 19.54        | 20.50         |
|           |            | 25      | 13        | 19.68                   | 19.64        | 19.50        | 20.50         |
|           |            | 25      | 25        | 19.63                   | 19.51        | 19.58        | 20.50         |
|           |            | 50      | 0         | 19.66                   | 19.53        | 19.54        | 20.50         |
|           | 64QAM      | 1       | 0         | 19.78                   | 19.66        | 19.55        | 20.50         |
|           |            | 1       | 25        | 19.51                   | 19.64        | 19.77        | 20.50         |
|           |            | 1       | 49        | 19.59                   | 19.49        | 19.67        | 20.50         |
|           |            | 25      | 0         | 19.76                   | 19.53        | 19.49        | 20.50         |



|           |            | 25      | 13        | 19.65                   | 19.43        | 19.59        | 20.50         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 25      | 25        | 19.60                   | 19.60        | 19.45        | 20.50         |
|           |            | 50      | 0         | 19.65                   | 19.51        | 19.55        | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20025/1717.5            | 20175/1732.5 | 20325/1747.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 19.80                   | 19.74        | 19.75        | 20.50         |
|           |            | 1       | 38        | 19.71                   | 19.62        | 19.55        | 20.50         |
|           |            | 1       | 74        | 19.63                   | 19.50        | 19.62        | 20.50         |
|           |            | 36      | 0         | 19.67                   | 19.58        | 19.55        | 20.50         |
|           |            | 36      | 18        | 19.67                   | 19.64        | 19.64        | 20.50         |
|           |            | 36      | 39        | 19.60                   | 19.46        | 19.58        | 20.50         |
|           |            | 75      | 0         | 19.52                   | 19.61        | 19.52        | 20.50         |
|           | 16QAM      | 1       | 0         | 19.79                   | 19.63        | 19.74        | 20.50         |
|           |            | 1       | 38        | 19.48                   | 19.73        | 19.75        | 20.50         |
|           |            | 1       | 74        | 19.48                   | 19.73        | 19.64        | 20.50         |
|           |            | 36      | 0         | 19.75                   | 19.55        | 19.51        | 20.50         |
|           |            | 36      | 18        | 19.65                   | 19.59        | 19.46        | 20.50         |
|           |            | 36      | 39        | 19.61                   | 19.47        | 19.55        | 20.50         |
|           |            | 75      | 0         | 19.63                   | 19.48        | 19.50        | 20.50         |
|           | 64QAM      | 1       | 0         | 19.73                   | 19.64        | 19.53        | 20.50         |
|           |            | 1       | 38        | 19.49                   | 19.61        | 19.75        | 20.50         |
|           |            | 1       | 74        | 19.56                   | 19.45        | 19.64        | 20.50         |
|           |            | 36      | 0         | 19.73                   | 19.51        | 19.46        | 20.50         |
|           |            | 36      | 18        | 19.62                   | 19.38        | 19.55        | 20.50         |
|           |            | 36      | 39        | 19.58                   | 19.56        | 19.42        | 20.50         |
|           |            | 75      | 0         | 19.62                   | 19.46        | 19.51        | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20050/1720              | 20175/1732.5 | 20300/1745   |               |
| 20MHz     | QPSK       | 1       | 0         | 19.77                   | 19.70        | 19.72        | 20.50         |
|           |            | 1       | 50        | 19.70                   | 19.58        | 19.53        | 20.50         |
|           |            | 1       | 99        | 19.61                   | 19.49        | 19.59        | 20.50         |
|           |            | 50      | 0         | 19.64                   | 19.53        | 19.51        | 20.50         |
|           |            | 50      | 25        | 19.65                   | 19.60        | 19.61        | 20.50         |
|           |            | 50      | 50        | 19.57                   | 19.41        | 19.54        | 20.50         |
|           |            | 100     | 0         | 19.49                   | 19.56        | 19.48        | 20.50         |
|           | 16QAM      | 1       | 0         | 19.77                   | 19.59        | 19.69        | 20.50         |
|           |            | 1       | 50        | 19.44                   | 19.71        | 19.71        | 20.50         |
|           |            | 1       | 99        | 19.46                   | 19.70        | 19.62        | 20.50         |
|           |            | 50      | 0         | 19.72                   | 19.51        | 19.48        | 20.50         |
|           |            | 50      | 25        | 19.62                   | 19.57        | 19.43        | 20.50         |
|           |            | 50      | 50        | 19.58                   | 19.42        | 19.51        | 20.50         |
|           |            | 100     | 0         | 19.61                   | 19.44        | 19.47        | 20.50         |
|           | 64QAM      | 1       | 0         | 19.71                   | 19.60        | 19.48        | 20.50         |



|  |  |     |    |       |       |       |       |
|--|--|-----|----|-------|-------|-------|-------|
|  |  | 1   | 50 | 19.45 | 19.59 | 19.71 | 20.50 |
|  |  | 1   | 99 | 19.54 | 19.42 | 19.62 | 20.50 |
|  |  | 50  | 0  | 19.70 | 19.47 | 19.43 | 20.50 |
|  |  | 50  | 25 | 19.59 | 19.36 | 19.52 | 20.50 |
|  |  | 50  | 50 | 19.55 | 19.51 | 19.38 | 20.50 |
|  |  | 100 | 0  | 19.60 | 19.42 | 19.48 | 20.50 |

| LTE FDD Band 4<br>(REC On+Right Head) |            |         |           | Conducted Power(dBm)    |              |              |                  |
|---------------------------------------|------------|---------|-----------|-------------------------|--------------|--------------|------------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up<br>Limit |
|                                       |            |         |           | 19957/1710.7            | 20175/1732.5 | 20393/1754.3 |                  |
| 1.4MHz                                | QPSK       | 1       | 0         | 17.40                   | 17.40        | 17.32        | 18.00            |
|                                       |            | 1       | 2         | 17.32                   | 16.66        | 16.53        | 18.00            |
|                                       |            | 1       | 5         | 17.23                   | 17.11        | 17.02        | 18.00            |
|                                       |            | 3       | 0         | 17.27                   | 17.16        | 17.14        | 18.00            |
|                                       |            | 3       | 2         | 17.28                   | 17.19        | 17.17        | 18.00            |
|                                       |            | 3       | 3         | 17.30                   | 17.04        | 17.15        | 18.00            |
|                                       |            | 6       | 0         | 17.04                   | 17.24        | 17.16        | 18.00            |
|                                       | 16QAM      | 1       | 0         | 17.41                   | 17.58        | 17.42        | 18.00            |
|                                       |            | 1       | 2         | 17.10                   | 16.58        | 16.88        | 18.00            |
|                                       |            | 1       | 5         | 17.30                   | 17.40        | 17.38        | 18.00            |
|                                       |            | 3       | 0         | 17.27                   | 17.21        | 17.12        | 18.00            |
|                                       |            | 3       | 2         | 17.17                   | 17.13        | 17.08        | 18.00            |
|                                       |            | 3       | 3         | 17.07                   | 16.95        | 17.02        | 18.00            |
|                                       |            | 6       | 0         | 17.13                   | 17.09        | 16.99        | 18.00            |
|                                       | 64QAM      | 1       | 0         | 17.36                   | 17.33        | 17.48        | 18.00            |
|                                       |            | 1       | 2         | 17.28                   | 16.36        | 16.85        | 18.00            |
|                                       |            | 1       | 5         | 17.36                   | 17.09        | 17.18        | 18.00            |
|                                       |            | 3       | 0         | 17.15                   | 17.11        | 17.14        | 18.00            |
|                                       |            | 3       | 2         | 17.17                   | 17.13        | 17.14        | 18.00            |
|                                       |            | 3       | 3         | 17.07                   | 17.02        | 16.97        | 18.00            |
|                                       |            | 6       | 0         | 17.10                   | 17.10        | 16.95        | 18.00            |
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up<br>Limit |
|                                       |            |         |           | 19965/1711.5            | 20175/1732.5 | 20385/1753.5 |                  |
| 3MHz                                  | QPSK       | 1       | 0         | 17.38                   | 17.33        | 17.30        | 18.00            |
|                                       |            | 1       | 7         | 17.32                   | 16.66        | 16.52        | 18.00            |
|                                       |            | 1       | 14        | 17.20                   | 17.09        | 16.98        | 18.00            |
|                                       |            | 8       | 0         | 17.25                   | 17.12        | 17.11        | 18.00            |
|                                       |            | 8       | 4         | 17.26                   | 17.15        | 17.14        | 18.00            |
|                                       |            | 8       | 7         | 17.26                   | 17.00        | 17.12        | 18.00            |
|                                       |            | 15      | 0         | 17.07                   | 17.17        | 17.11        | 18.00            |
|                                       | 16QAM      | 1       | 0         | 17.36                   | 17.55        | 17.37        | 18.00            |
|                                       |            | 1       | 7         | 17.07                   | 16.57        | 16.85        | 18.00            |



|           |            | 1       | 14        | 17.28                   | 17.35        | 17.36        | 18.00         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 8       | 0         | 17.24                   | 17.20        | 17.10        | 18.00         |
|           |            | 8       | 4         | 17.13                   | 17.10        | 17.04        | 18.00         |
|           |            | 8       | 7         | 17.05                   | 16.91        | 16.99        | 18.00         |
|           |            | 15      | 0         | 17.11                   | 17.05        | 16.96        | 18.00         |
|           | 64QAM      | 1       | 0         | 17.31                   | 17.30        | 17.43        | 18.00         |
|           |            | 1       | 7         | 17.25                   | 16.35        | 16.82        | 18.00         |
|           |            | 1       | 14        | 17.34                   | 17.04        | 17.16        | 18.00         |
|           |            | 8       | 0         | 17.12                   | 17.10        | 17.12        | 18.00         |
|           |            | 8       | 4         | 17.13                   | 17.10        | 17.10        | 18.00         |
|           |            | 8       | 7         | 17.05                   | 16.98        | 16.94        | 18.00         |
|           |            | 15      | 0         | 17.08                   | 17.06        | 16.92        | 18.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 19975/1712.5            | 20175/1732.5 | 20375/1752.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 17.35                   | 17.31        | 17.26        | 18.00         |
|           |            | 1       | 13        | 17.30                   | 16.62        | 16.49        | 18.00         |
|           |            | 1       | 24        | 17.17                   | 17.04        | 16.94        | 18.00         |
|           |            | 12      | 0         | 17.22                   | 17.07        | 17.07        | 18.00         |
|           |            | 12      | 6         | 17.24                   | 17.11        | 17.09        | 18.00         |
|           |            | 12      | 13        | 17.24                   | 16.98        | 17.08        | 18.00         |
|           |            | 25      | 0         | 17.05                   | 17.16        | 17.09        | 18.00         |
|           | 16QAM      | 1       | 0         | 17.33                   | 17.51        | 17.34        | 18.00         |
|           |            | 1       | 13        | 17.04                   | 16.55        | 16.82        | 18.00         |
|           |            | 1       | 24        | 17.25                   | 17.33        | 17.32        | 18.00         |
|           |            | 12      | 0         | 17.22                   | 17.16        | 17.07        | 18.00         |
|           |            | 12      | 6         | 17.10                   | 17.05        | 17.00        | 18.00         |
|           |            | 12      | 13        | 17.02                   | 16.86        | 16.95        | 18.00         |
|           |            | 25      | 0         | 17.09                   | 17.01        | 16.91        | 18.00         |
|           | 64QAM      | 1       | 0         | 17.28                   | 17.26        | 17.40        | 18.00         |
|           |            | 1       | 13        | 17.22                   | 16.33        | 16.79        | 18.00         |
|           |            | 1       | 24        | 17.31                   | 17.02        | 17.12        | 18.00         |
|           |            | 12      | 0         | 17.10                   | 17.06        | 17.09        | 18.00         |
|           |            | 12      | 6         | 17.10                   | 17.05        | 17.06        | 18.00         |
|           |            | 12      | 13        | 17.02                   | 16.93        | 16.90        | 18.00         |
|           |            | 25      | 0         | 17.06                   | 17.02        | 16.87        | 18.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20000/1715              | 20175/1732.5 | 20350/1750   |               |
| 10MHz     | QPSK       | 1       | 0         | 17.37                   | 17.32        | 17.29        | 18.00         |
|           |            | 1       | 25        | 17.33                   | 16.67        | 16.53        | 18.00         |
|           |            | 1       | 49        | 17.19                   | 17.08        | 16.97        | 18.00         |
|           |            | 25      | 0         | 17.25                   | 17.12        | 17.11        | 18.00         |
|           |            | 25      | 13        | 17.27                   | 17.16        | 17.13        | 18.00         |
|           |            | 25      | 25        | 17.26                   | 17.02        | 17.13        | 18.00         |



|           | 16QAM      | 50      | 0         | 17.13                   | 17.18        | 17.13        | 18.00         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 1       | 0         | 17.35                   | 17.54        | 17.36        | 18.00         |
|           |            | 1       | 25        | 17.07                   | 16.59        | 16.85        | 18.00         |
|           |            | 1       | 49        | 17.28                   | 17.35        | 17.35        | 18.00         |
|           |            | 25      | 0         | 17.25                   | 17.21        | 17.11        | 18.00         |
|           |            | 25      | 13        | 17.12                   | 17.09        | 17.03        | 18.00         |
|           |            | 25      | 25        | 17.05                   | 16.91        | 16.99        | 18.00         |
|           |            | 50      | 0         | 17.12                   | 17.06        | 16.95        | 18.00         |
|           | 64QAM      | 1       | 0         | 17.30                   | 17.29        | 17.42        | 18.00         |
|           |            | 1       | 25        | 17.25                   | 16.37        | 16.82        | 18.00         |
|           |            | 1       | 49        | 17.34                   | 17.04        | 17.15        | 18.00         |
|           |            | 25      | 0         | 17.13                   | 17.11        | 17.13        | 18.00         |
|           |            | 25      | 13        | 17.12                   | 17.09        | 17.09        | 18.00         |
|           |            | 25      | 25        | 17.05                   | 16.98        | 16.94        | 18.00         |
|           |            | 50      | 0         | 17.09                   | 17.07        | 16.91        | 18.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20025/1717.5            | 20175/1732.5 | 20325/1747.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 17.36                   | 17.28        | 17.27        | 18.00         |
|           |            | 1       | 38        | 17.31                   | 16.66        | 16.50        | 18.00         |
|           |            | 1       | 74        | 17.16                   | 17.03        | 16.93        | 18.00         |
|           |            | 36      | 0         | 17.23                   | 17.08        | 17.08        | 18.00         |
|           |            | 36      | 18        | 17.24                   | 17.11        | 17.09        | 18.00         |
|           |            | 36      | 39        | 17.23                   | 16.99        | 17.09        | 18.00         |
|           |            | 75      | 0         | 17.11                   | 17.14        | 17.08        | 18.00         |
|           | 16QAM      | 1       | 0         | 17.30                   | 17.52        | 17.34        | 18.00         |
|           |            | 1       | 38        | 17.05                   | 16.56        | 16.83        | 18.00         |
|           |            | 1       | 74        | 17.25                   | 17.31        | 17.32        | 18.00         |
|           |            | 36      | 0         | 17.22                   | 17.19        | 17.08        | 18.00         |
|           |            | 36      | 18        | 17.09                   | 17.04        | 16.99        | 18.00         |
|           |            | 36      | 39        | 17.03                   | 16.87        | 16.96        | 18.00         |
|           |            | 75      | 0         | 17.09                   | 17.01        | 16.91        | 18.00         |
|           | 64QAM      | 1       | 0         | 17.25                   | 17.27        | 17.40        | 18.00         |
|           |            | 1       | 38        | 17.23                   | 16.34        | 16.80        | 18.00         |
|           |            | 1       | 74        | 17.31                   | 17.00        | 17.12        | 18.00         |
|           |            | 36      | 0         | 17.10                   | 17.09        | 17.10        | 18.00         |
|           |            | 36      | 18        | 17.09                   | 17.04        | 17.05        | 18.00         |
|           |            | 36      | 39        | 17.03                   | 16.94        | 16.91        | 18.00         |
|           |            | 75      | 0         | 17.06                   | 17.02        | 16.87        | 18.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20050/1720              | 20175/1732.5 | 20300/1745   |               |
| 20MHz     | QPSK       | 1       | 0         | 17.33                   | 17.24        | 17.24        | 18.00         |
|           |            | 1       | 50        | 17.30                   | 16.62        | 16.48        | 18.00         |
|           |            | 1       | 99        | 17.14                   | 17.02        | 16.90        | 18.00         |



|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  |       | 50  | 0  | 17.20 | 17.03 | 17.04 | 18.00 |
|  |       | 50  | 25 | 17.22 | 17.07 | 17.06 | 18.00 |
|  |       | 50  | 50 | 17.20 | 16.94 | 17.05 | 18.00 |
|  |       | 100 | 0  | 17.08 | 17.09 | 17.04 | 18.00 |
|  | 16QAM | 1   | 0  | 17.28 | 17.48 | 17.29 | 18.00 |
|  |       | 1   | 50 | 17.01 | 16.54 | 16.79 | 18.00 |
|  |       | 1   | 99 | 17.23 | 17.28 | 17.30 | 18.00 |
|  |       | 50  | 0  | 17.19 | 17.15 | 17.05 | 18.00 |
|  |       | 50  | 25 | 17.06 | 17.02 | 16.96 | 18.00 |
|  |       | 50  | 50 | 17.00 | 16.82 | 16.92 | 18.00 |
|  |       | 100 | 0  | 17.07 | 16.97 | 16.88 | 18.00 |
|  | 64QAM | 1   | 0  | 17.23 | 17.23 | 17.35 | 18.00 |
|  |       | 1   | 50 | 17.19 | 16.32 | 16.76 | 18.00 |
|  |       | 1   | 99 | 17.29 | 16.97 | 17.10 | 18.00 |
|  |       | 50  | 0  | 17.07 | 17.05 | 17.07 | 18.00 |
|  |       | 50  | 25 | 17.06 | 17.02 | 17.02 | 18.00 |
|  |       | 50  | 50 | 17.00 | 16.89 | 16.87 | 18.00 |
|  |       | 100 | 0  | 17.04 | 16.98 | 16.84 | 18.00 |

| LTE FDD Band 4<br>(REC On+Left Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |              |              |                  |
|-----------------------------------------------|------------|---------|-----------|-------------------------|--------------|--------------|------------------|
| Bandwidth                                     | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up<br>Limit |
|                                               |            |         |           | 19957/1710.7            | 20175/1732.5 | 20393/1754.3 |                  |
| 1.4MHz                                        | QPSK       | 1       | 0         | 16.91                   | 16.96        | 16.87        | 17.50            |
|                                               |            | 1       | 2         | 16.73                   | 16.19        | 16.34        | 17.50            |
|                                               |            | 1       | 5         | 16.74                   | 16.67        | 16.72        | 17.50            |
|                                               |            | 3       | 0         | 16.72                   | 16.70        | 16.53        | 17.50            |
|                                               |            | 3       | 2         | 16.74                   | 16.73        | 16.55        | 17.50            |
|                                               |            | 3       | 3         | 16.70                   | 16.73        | 16.71        | 17.50            |
|                                               |            | 6       | 0         | 16.65                   | 16.80        | 16.34        | 17.50            |
|                                               | 16QAM      | 1       | 0         | 17.03                   | 16.83        | 17.03        | 17.50            |
|                                               |            | 1       | 2         | 16.96                   | 16.25        | 16.15        | 17.50            |
|                                               |            | 1       | 5         | 16.89                   | 16.82        | 16.93        | 17.50            |
|                                               |            | 3       | 0         | 16.74                   | 16.80        | 16.78        | 17.50            |
|                                               |            | 3       | 2         | 16.71                   | 16.62        | 16.65        | 17.50            |
|                                               |            | 3       | 3         | 16.70                   | 16.71        | 16.53        | 17.50            |
|                                               |            | 6       | 0         | 16.66                   | 16.63        | 16.51        | 17.50            |
|                                               | 64QAM      | 1       | 0         | 17.04                   | 16.98        | 16.63        | 17.50            |
|                                               |            | 1       | 2         | 16.71                   | 15.79        | 16.64        | 17.50            |
|                                               |            | 1       | 5         | 16.91                   | 16.84        | 16.80        | 17.50            |
|                                               |            | 3       | 0         | 16.73                   | 16.64        | 16.77        | 17.50            |
|                                               |            | 3       | 2         | 16.81                   | 16.64        | 16.51        | 17.50            |
|                                               |            | 3       | 3         | 16.64                   | 16.72        | 16.51        | 17.50            |



| Bandwidth | Modulation | 6       | 0         | 16.68                   | 16.54        | 16.56        | 17.50         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 19965/1711.5            | 20175/1732.5 | 20385/1753.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 16.87                   | 16.88        | 16.82        | 17.50         |
|           |            | 1       | 7         | 16.70                   | 16.14        | 16.29        | 17.50         |
|           |            | 1       | 14        | 16.69                   | 16.61        | 16.65        | 17.50         |
|           |            | 8       | 0         | 16.67                   | 16.61        | 16.46        | 17.50         |
|           |            | 8       | 4         | 16.69                   | 16.64        | 16.48        | 17.50         |
|           |            | 8       | 7         | 16.64                   | 16.65        | 16.63        | 17.50         |
|           |            | 15      | 0         | 16.60                   | 16.71        | 16.25        | 17.50         |
|           | 16QAM      | 1       | 0         | 16.96                   | 16.77        | 16.96        | 17.50         |
|           |            | 1       | 7         | 16.90                   | 16.20        | 16.09        | 17.50         |
|           |            | 1       | 14        | 16.84                   | 16.75        | 16.88        | 17.50         |
|           |            | 8       | 0         | 16.68                   | 16.74        | 16.72        | 17.50         |
|           |            | 8       | 4         | 16.65                   | 16.55        | 16.58        | 17.50         |
|           |            | 8       | 7         | 16.65                   | 16.62        | 16.46        | 17.50         |
|           |            | 15      | 0         | 16.61                   | 16.54        | 16.44        | 17.50         |
|           | 64QAM      | 1       | 0         | 16.97                   | 16.92        | 16.56        | 17.50         |
|           |            | 1       | 7         | 16.65                   | 15.74        | 16.58        | 17.50         |
|           |            | 1       | 14        | 16.86                   | 16.77        | 16.75        | 17.50         |
|           |            | 8       | 0         | 16.67                   | 16.58        | 16.71        | 17.50         |
|           |            | 8       | 4         | 16.75                   | 16.57        | 16.44        | 17.50         |
|           |            | 8       | 7         | 16.59                   | 16.63        | 16.44        | 17.50         |
|           |            | 15      | 0         | 16.63                   | 16.45        | 16.49        | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 19975/1712.5            | 20175/1732.5 | 20375/1752.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 16.84                   | 16.86        | 16.78        | 17.50         |
|           |            | 1       | 13        | 16.68                   | 16.10        | 16.26        | 17.50         |
|           |            | 1       | 24        | 16.66                   | 16.56        | 16.61        | 17.50         |
|           |            | 12      | 0         | 16.64                   | 16.56        | 16.42        | 17.50         |
|           |            | 12      | 6         | 16.67                   | 16.60        | 16.43        | 17.50         |
|           |            | 12      | 13        | 16.62                   | 16.63        | 16.59        | 17.50         |
|           |            | 25      | 0         | 16.58                   | 16.70        | 16.23        | 17.50         |
|           | 16QAM      | 1       | 0         | 16.93                   | 16.73        | 16.93        | 17.50         |
|           |            | 1       | 13        | 16.87                   | 16.18        | 16.06        | 17.50         |
|           |            | 1       | 24        | 16.81                   | 16.73        | 16.84        | 17.50         |
|           |            | 12      | 0         | 16.66                   | 16.70        | 16.69        | 17.50         |
|           |            | 12      | 6         | 16.62                   | 16.50        | 16.54        | 17.50         |
|           |            | 12      | 13        | 16.62                   | 16.57        | 16.42        | 17.50         |
|           |            | 25      | 0         | 16.59                   | 16.50        | 16.39        | 17.50         |
|           | 64QAM      | 1       | 0         | 16.94                   | 16.88        | 16.53        | 17.50         |
|           |            | 1       | 13        | 16.62                   | 15.72        | 16.55        | 17.50         |
|           |            | 1       | 24        | 16.83                   | 16.75        | 16.71        | 17.50         |



|           |            | 12      | 0         | 16.65                   | 16.54        | 16.68        | 17.50         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 12      | 6         | 16.72                   | 16.52        | 16.40        | 17.50         |
|           |            | 12      | 13        | 16.56                   | 16.58        | 16.40        | 17.50         |
|           |            | 25      | 0         | 16.61                   | 16.41        | 16.44        | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20000/1715              | 20175/1732.5 | 20350/1750   |               |
| 10MHz     | QPSK       | 1       | 0         | 16.86                   | 16.87        | 16.81        | 17.50         |
|           |            | 1       | 25        | 16.71                   | 16.15        | 16.30        | 17.50         |
|           |            | 1       | 49        | 16.68                   | 16.60        | 16.64        | 17.50         |
|           |            | 25      | 0         | 16.67                   | 16.61        | 16.46        | 17.50         |
|           |            | 25      | 13        | 16.70                   | 16.65        | 16.47        | 17.50         |
|           |            | 25      | 25        | 16.64                   | 16.67        | 16.64        | 17.50         |
|           |            | 50      | 0         | 16.66                   | 16.72        | 16.27        | 17.50         |
|           | 16QAM      | 1       | 0         | 16.95                   | 16.76        | 16.95        | 17.50         |
|           |            | 1       | 25        | 16.90                   | 16.22        | 16.09        | 17.50         |
|           |            | 1       | 49        | 16.84                   | 16.75        | 16.87        | 17.50         |
|           |            | 25      | 0         | 16.69                   | 16.75        | 16.73        | 17.50         |
|           |            | 25      | 13        | 16.64                   | 16.54        | 16.57        | 17.50         |
|           |            | 25      | 25        | 16.65                   | 16.62        | 16.46        | 17.50         |
|           |            | 50      | 0         | 16.62                   | 16.55        | 16.43        | 17.50         |
|           | 64QAM      | 1       | 0         | 16.96                   | 16.91        | 16.55        | 17.50         |
|           |            | 1       | 25        | 16.65                   | 15.76        | 16.58        | 17.50         |
|           |            | 1       | 49        | 16.86                   | 16.77        | 16.74        | 17.50         |
|           |            | 25      | 0         | 16.68                   | 16.59        | 16.72        | 17.50         |
|           |            | 25      | 13        | 16.74                   | 16.56        | 16.43        | 17.50         |
|           |            | 25      | 25        | 16.59                   | 16.63        | 16.44        | 17.50         |
|           |            | 50      | 0         | 16.64                   | 16.46        | 16.48        | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20025/1717.5            | 20175/1732.5 | 20325/1747.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 16.85                   | 16.83        | 16.79        | 17.50         |
|           |            | 1       | 38        | 16.69                   | 16.14        | 16.27        | 17.50         |
|           |            | 1       | 74        | 16.65                   | 16.55        | 16.60        | 17.50         |
|           |            | 36      | 0         | 16.65                   | 16.57        | 16.43        | 17.50         |
|           |            | 36      | 18        | 16.67                   | 16.60        | 16.43        | 17.50         |
|           |            | 36      | 39        | 16.61                   | 16.64        | 16.60        | 17.50         |
|           |            | 75      | 0         | 16.64                   | 16.68        | 16.22        | 17.50         |
|           | 16QAM      | 1       | 0         | 16.90                   | 16.74        | 16.93        | 17.50         |
|           |            | 1       | 38        | 16.88                   | 16.19        | 16.07        | 17.50         |
|           |            | 1       | 74        | 16.81                   | 16.71        | 16.84        | 17.50         |
|           |            | 36      | 0         | 16.66                   | 16.73        | 16.70        | 17.50         |
|           |            | 36      | 18        | 16.61                   | 16.49        | 16.53        | 17.50         |
|           |            | 36      | 39        | 16.63                   | 16.58        | 16.43        | 17.50         |
|           |            | 75      | 0         | 16.59                   | 16.50        | 16.39        | 17.50         |





|           | 64QAM      | 1       | 0         | 16.91                   | 16.89        | 16.53      | 17.50         |
|-----------|------------|---------|-----------|-------------------------|--------------|------------|---------------|
|           |            | 1       | 38        | 16.63                   | 15.73        | 16.56      | 17.50         |
|           |            | 1       | 74        | 16.83                   | 16.73        | 16.71      | 17.50         |
|           |            | 36      | 0         | 16.65                   | 16.57        | 16.69      | 17.50         |
|           |            | 36      | 18        | 16.71                   | 16.51        | 16.39      | 17.50         |
|           |            | 36      | 39        | 16.57                   | 16.59        | 16.41      | 17.50         |
|           |            | 75      | 0         | 16.61                   | 16.41        | 16.44      | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |            | Tune-up Limit |
|           |            |         |           | 20050/1720              | 20175/1732.5 | 20300/1745 |               |
| 20MHz     | QPSK       | 1       | 0         | 16.82                   | 16.79        | 16.76      | 17.50         |
|           |            | 1       | 50        | 16.68                   | 16.10        | 16.25      | 17.50         |
|           |            | 1       | 99        | 16.63                   | 16.54        | 16.57      | 17.50         |
|           |            | 50      | 0         | 16.62                   | 16.52        | 16.39      | 17.50         |
|           |            | 50      | 25        | 16.65                   | 16.56        | 16.40      | 17.50         |
|           |            | 50      | 50        | 16.58                   | 16.59        | 16.56      | 17.50         |
|           |            | 100     | 0         | 16.61                   | 16.63        | 16.18      | 17.50         |
|           | 16QAM      | 1       | 0         | 16.88                   | 16.70        | 16.88      | 17.50         |
|           |            | 1       | 50        | 16.84                   | 16.17        | 16.03      | 17.50         |
|           |            | 1       | 99        | 16.79                   | 16.68        | 16.82      | 17.50         |
|           |            | 50      | 0         | 16.63                   | 16.69        | 16.67      | 17.50         |
|           |            | 50      | 25        | 16.58                   | 16.47        | 16.50      | 17.50         |
|           |            | 50      | 50        | 16.60                   | 16.53        | 16.39      | 17.50         |
|           |            | 100     | 0         | 16.57                   | 16.46        | 16.36      | 17.50         |
|           | 64QAM      | 1       | 0         | 16.89                   | 16.85        | 16.48      | 17.50         |
|           |            | 1       | 50        | 16.59                   | 15.71        | 16.52      | 17.50         |
|           |            | 1       | 99        | 16.81                   | 16.70        | 16.69      | 17.50         |
|           |            | 50      | 0         | 16.62                   | 16.53        | 16.66      | 17.50         |
|           |            | 50      | 25        | 16.68                   | 16.49        | 16.36      | 17.50         |
|           |            | 50      | 50        | 16.54                   | 16.54        | 16.37      | 17.50         |
|           |            | 100     | 0         | 16.59                   | 16.37        | 16.41      | 17.50         |

| LTE FDD Band 4<br>(REC On+Right Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |              |              |               |
|------------------------------------------------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
| Bandwidth                                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|                                                |            |         |           | 19957/1710.7            | 20175/1732.5 | 20393/1754.3 |               |
| 1.4MHz                                         | QPSK       | 1       | 0         | 15.25                   | 13.90        | 15.11        | 15.50         |
|                                                |            | 1       | 2         | 14.05                   | 14.45        | 15.03        | 15.50         |
|                                                |            | 1       | 5         | 14.66                   | 15.30        | 14.22        | 15.50         |
|                                                |            | 3       | 0         | 14.94                   | 14.62        | 14.82        | 15.50         |
|                                                |            | 3       | 2         | 15.15                   | 15.14        | 15.04        | 15.50         |
|                                                |            | 3       | 3         | 14.07                   | 15.00        | 15.12        | 15.50         |
|                                                |            | 6       | 0         | 14.73                   | 14.88        | 14.90        | 15.50         |
|                                                | 16QAM      | 1       | 0         | 15.31                   | 14.40        | 15.44        | 15.50         |



|           |            | 1       | 2         | 14.99                   | 14.81        | 15.43        | 15.50         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 1       | 5         | 14.83                   | 15.23        | 14.75        | 15.50         |
|           |            | 3       | 0         | 14.73                   | 14.56        | 14.96        | 15.50         |
|           |            | 3       | 2         | 14.20                   | 14.89        | 15.39        | 15.50         |
|           |            | 3       | 3         | 13.89                   | 15.43        | 15.11        | 15.50         |
|           |            | 6       | 0         | 14.69                   | 14.83        | 14.73        | 15.50         |
|           | 64QAM      | 1       | 0         | 14.82                   | 13.95        | 15.15        | 15.50         |
|           |            | 1       | 2         | 14.19                   | 14.79        | 15.39        | 15.50         |
|           |            | 1       | 5         | 14.76                   | 15.33        | 14.60        | 15.50         |
|           |            | 3       | 0         | 14.65                   | 14.52        | 15.27        | 15.50         |
|           |            | 3       | 2         | 14.19                   | 14.86        | 15.48        | 15.50         |
|           |            | 3       | 3         | 13.88                   | 15.41        | 15.07        | 15.50         |
|           |            | 6       | 0         | 14.67                   | 14.86        | 15.36        | 15.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 19965/1711.5            | 20175/1732.5 | 20385/1753.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 15.22                   | 13.86        | 15.08        | 15.50         |
|           |            | 1       | 7         | 14.04                   | 14.41        | 15.01        | 15.50         |
|           |            | 1       | 14        | 14.64                   | 15.29        | 14.19        | 15.50         |
|           |            | 8       | 0         | 14.91                   | 14.57        | 14.78        | 15.50         |
|           |            | 8       | 4         | 15.13                   | 15.10        | 15.01        | 15.50         |
|           |            | 8       | 7         | 14.04                   | 14.95        | 15.08        | 15.50         |
|           |            | 15      | 0         | 14.70                   | 14.83        | 14.86        | 15.50         |
|           | 16QAM      | 1       | 0         | 15.49                   | 14.36        | 15.39        | 15.50         |
|           |            | 1       | 7         | 14.95                   | 14.79        | 15.39        | 15.50         |
|           |            | 1       | 14        | 14.81                   | 15.20        | 14.73        | 15.50         |
|           |            | 8       | 0         | 14.70                   | 14.52        | 14.93        | 15.50         |
|           |            | 8       | 4         | 14.17                   | 14.87        | 15.36        | 15.50         |
|           |            | 8       | 7         | 13.86                   | 15.38        | 15.07        | 15.50         |
|           |            | 15      | 0         | 14.67                   | 14.79        | 14.70        | 15.50         |
|           | 64QAM      | 1       | 0         | 14.80                   | 13.91        | 15.10        | 15.50         |
|           |            | 1       | 7         | 14.15                   | 14.77        | 15.35        | 15.50         |
|           |            | 1       | 14        | 14.74                   | 15.30        | 14.58        | 15.50         |
|           |            | 8       | 0         | 14.62                   | 14.48        | 15.24        | 15.50         |
|           |            | 8       | 4         | 14.16                   | 14.84        | 15.45        | 15.50         |
|           |            | 8       | 7         | 13.85                   | 15.36        | 15.03        | 15.50         |
|           |            | 15      | 0         | 14.65                   | 14.82        | 15.33        | 15.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 19975/1712.5            | 20175/1732.5 | 20375/1752.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 15.19                   | 13.84        | 15.04        | 15.50         |
|           |            | 1       | 13        | 14.02                   | 14.37        | 14.98        | 15.50         |
|           |            | 1       | 24        | 14.61                   | 15.24        | 14.15        | 15.50         |
|           |            | 12      | 0         | 14.88                   | 14.52        | 14.74        | 15.50         |
|           |            | 12      | 6         | 15.11                   | 15.06        | 14.96        | 15.50         |



|           |            | 12      | 13        | 14.02                   | 14.93        | 15.04        | 15.50         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 25      | 0         | 14.68                   | 14.82        | 14.84        | 15.50         |
|           | 16QAM      | 1       | 0         | 15.46                   | 14.32        | 15.36        | 15.50         |
|           |            | 1       | 13        | 14.92                   | 14.77        | 15.36        | 15.50         |
|           |            | 1       | 24        | 14.78                   | 15.18        | 14.69        | 15.50         |
|           |            | 12      | 0         | 14.68                   | 14.48        | 14.90        | 15.50         |
|           |            | 12      | 6         | 14.14                   | 14.82        | 15.32        | 15.50         |
|           |            | 12      | 13        | 13.83                   | 15.33        | 15.03        | 15.50         |
|           |            | 25      | 0         | 14.65                   | 14.75        | 14.65        | 15.50         |
|           |            | 1       | 0         | 14.77                   | 13.87        | 15.07        | 15.50         |
|           | 64QAM      | 1       | 13        | 14.12                   | 14.75        | 15.32        | 15.50         |
|           |            | 1       | 24        | 14.71                   | 15.28        | 14.54        | 15.50         |
|           |            | 12      | 0         | 14.60                   | 14.44        | 15.21        | 15.50         |
|           |            | 12      | 6         | 14.13                   | 14.79        | 15.41        | 15.50         |
|           |            | 12      | 13        | 13.82                   | 15.31        | 14.99        | 15.50         |
|           |            | 25      | 0         | 14.63                   | 14.78        | 15.28        | 15.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20000/1715              | 20175/1732.5 | 20350/1750   |               |
| 10MHz     | QPSK       | 1       | 0         | 15.21                   | 13.85        | 15.07        | 15.50         |
|           |            | 1       | 25        | 14.05                   | 14.42        | 15.02        | 15.50         |
|           |            | 1       | 49        | 14.63                   | 15.28        | 14.18        | 15.50         |
|           |            | 25      | 0         | 14.91                   | 14.57        | 14.78        | 15.50         |
|           |            | 25      | 13        | 15.14                   | 15.11        | 15.00        | 15.50         |
|           |            | 25      | 25        | 14.04                   | 14.97        | 15.09        | 15.50         |
|           |            | 50      | 0         | 14.76                   | 14.84        | 14.88        | 15.50         |
|           |            | 1       | 0         | 15.48                   | 14.35        | 15.38        | 15.50         |
|           | 16QAM      | 1       | 25        | 14.95                   | 14.81        | 15.39        | 15.50         |
|           |            | 1       | 49        | 14.81                   | 15.20        | 14.72        | 15.50         |
|           |            | 25      | 0         | 14.71                   | 14.53        | 14.94        | 15.50         |
|           |            | 25      | 13        | 14.16                   | 14.86        | 15.35        | 15.50         |
|           |            | 25      | 25        | 13.86                   | 15.38        | 15.07        | 15.50         |
|           |            | 50      | 0         | 14.68                   | 14.80        | 14.69        | 15.50         |
|           |            | 1       | 0         | 14.79                   | 13.90        | 15.09        | 15.50         |
|           |            | 1       | 25        | 14.15                   | 14.79        | 15.35        | 15.50         |
|           | 64QAM      | 1       | 49        | 14.74                   | 15.30        | 14.57        | 15.50         |
|           |            | 25      | 0         | 14.63                   | 14.49        | 15.25        | 15.50         |
|           |            | 25      | 13        | 14.15                   | 14.83        | 15.44        | 15.50         |
|           |            | 25      | 25        | 13.85                   | 15.36        | 15.03        | 15.50         |
|           |            | 50      | 0         | 14.66                   | 14.83        | 15.32        | 15.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20025/1717.5            | 20175/1732.5 | 20325/1747.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 15.20                   | 13.81        | 15.05        | 15.50         |
|           |            | 1       | 38        | 14.03                   | 14.41        | 14.99        | 15.50         |



|           |            | 1       | 74        | 14.60                   | 15.23        | 14.14      | 15.50         |
|-----------|------------|---------|-----------|-------------------------|--------------|------------|---------------|
|           |            | 36      | 0         | 14.89                   | 14.53        | 14.75      | 15.50         |
|           |            | 36      | 18        | 15.11                   | 15.06        | 14.96      | 15.50         |
|           |            | 36      | 39        | 14.01                   | 14.94        | 15.05      | 15.50         |
|           |            | 75      | 0         | 14.74                   | 14.80        | 14.83      | 15.50         |
|           | 16QAM      | 1       | 0         | 15.43                   | 14.33        | 15.36      | 15.50         |
|           |            | 1       | 38        | 14.93                   | 14.78        | 15.37      | 15.50         |
|           |            | 1       | 74        | 14.78                   | 15.16        | 14.69      | 15.50         |
|           |            | 36      | 0         | 14.68                   | 14.51        | 14.91      | 15.50         |
|           |            | 36      | 18        | 14.13                   | 14.81        | 15.31      | 15.50         |
|           |            | 36      | 39        | 13.84                   | 15.34        | 15.04      | 15.50         |
|           |            | 75      | 0         | 14.65                   | 14.75        | 14.65      | 15.50         |
|           | 64QAM      | 1       | 0         | 14.74                   | 13.88        | 15.07      | 15.50         |
|           |            | 1       | 38        | 14.13                   | 14.76        | 15.33      | 15.50         |
|           |            | 1       | 74        | 14.71                   | 15.26        | 14.54      | 15.50         |
|           |            | 36      | 0         | 14.60                   | 14.47        | 15.22      | 15.50         |
|           |            | 36      | 18        | 14.12                   | 14.78        | 15.40      | 15.50         |
|           |            | 36      | 39        | 13.83                   | 15.32        | 15.00      | 15.50         |
|           |            | 75      | 0         | 14.63                   | 14.78        | 15.28      | 15.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |            | Tune-up Limit |
|           |            |         |           | 20050/1720              | 20175/1732.5 | 20300/1745 |               |
| 20MHz     | QPSK       | 1       | 0         | 15.17                   | 13.77        | 15.02      | 15.50         |
|           |            | 1       | 50        | 14.02                   | 14.37        | 14.97      | 15.50         |
|           |            | 1       | 99        | 14.58                   | 15.22        | 14.11      | 15.50         |
|           |            | 50      | 0         | 14.86                   | 14.48        | 14.71      | 15.50         |
|           |            | 50      | 25        | 15.09                   | 15.02        | 14.93      | 15.50         |
|           |            | 50      | 50        | 13.98                   | 14.89        | 15.01      | 15.50         |
|           |            | 100     | 0         | 14.71                   | 14.75        | 14.79      | 15.50         |
|           | 16QAM      | 1       | 0         | 15.41                   | 14.29        | 15.31      | 15.50         |
|           |            | 1       | 50        | 14.89                   | 14.76        | 15.33      | 15.50         |
|           |            | 1       | 99        | 14.76                   | 15.13        | 14.67      | 15.50         |
|           |            | 50      | 0         | 14.65                   | 14.47        | 14.88      | 15.50         |
|           |            | 50      | 25        | 14.10                   | 14.79        | 15.48      | 15.50         |
|           |            | 50      | 50        | 13.81                   | 15.29        | 15.00      | 15.50         |
|           |            | 100     | 0         | 14.63                   | 14.71        | 14.62      | 15.50         |
|           | 64QAM      | 1       | 0         | 14.72                   | 13.84        | 15.02      | 15.50         |
|           |            | 1       | 50        | 14.09                   | 14.74        | 15.49      | 15.50         |
|           |            | 1       | 99        | 14.69                   | 15.23        | 14.52      | 15.50         |
|           |            | 50      | 0         | 14.57                   | 14.43        | 15.19      | 15.50         |
|           |            | 50      | 25        | 14.09                   | 14.76        | 15.37      | 15.50         |
|           |            | 50      | 50        | 13.80                   | 15.27        | 14.96      | 15.50         |
|           |            | 100     | 0         | 14.61                   | 14.74        | 15.25      | 15.50         |



| LTE FDD Band 4<br>(REC Off) |            |         |           | Conducted Power(dBm)    |              |              |                  |
|-----------------------------|------------|---------|-----------|-------------------------|--------------|--------------|------------------|
| Bandwidth                   | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up<br>Limit |
|                             |            |         |           | 19957/1710.7            | 20175/1732.5 | 20393/1754.3 |                  |
| 1.4MHz                      | QPSK       | 1       | 0         | 23.29                   | 23.35        | 23.23        | 23.80            |
|                             |            | 1       | 2         | 23.12                   | 23.08        | 23.06        | 23.80            |
|                             |            | 1       | 5         | 23.18                   | 23.12        | 23.02        | 23.80            |
|                             |            | 3       | 0         | 23.18                   | 23.14        | 22.94        | 23.80            |
|                             |            | 3       | 2         | 23.24                   | 23.17        | 23.12        | 23.80            |
|                             |            | 3       | 3         | 23.14                   | 23.02        | 23.08        | 23.80            |
|                             |            | 6       | 0         | 22.95                   | 23.26        | 23.07        | 23.80            |
|                             | 16QAM      | 1       | 0         | 23.14                   | 23.27        | 23.37        | 23.80            |
|                             |            | 1       | 2         | 23.28                   | 23.30        | 23.16        | 23.80            |
|                             |            | 1       | 5         | 22.88                   | 23.36        | 22.94        | 23.80            |
|                             |            | 3       | 0         | 22.84                   | 23.09        | 23.00        | 23.80            |
|                             |            | 3       | 2         | 23.12                   | 23.09        | 23.02        | 23.80            |
|                             |            | 3       | 3         | 22.81                   | 23.02        | 22.96        | 23.80            |
|                             |            | 6       | 0         | 22.24                   | 22.20        | 22.09        | 22.80            |
|                             | 64QAM      | 1       | 0         | 22.38                   | 22.49        | 22.10        | 22.80            |
|                             |            | 1       | 2         | 22.28                   | 22.22        | 21.85        | 22.80            |
|                             |            | 1       | 5         | 22.35                   | 22.23        | 22.14        | 22.80            |
|                             |            | 3       | 0         | 22.30                   | 21.93        | 22.16        | 22.80            |
|                             |            | 3       | 2         | 22.06                   | 21.86        | 22.20        | 22.80            |
|                             |            | 3       | 3         | 21.88                   | 21.86        | 22.13        | 22.80            |
|                             |            | 6       | 0         | 21.04                   | 21.25        | 21.30        | 21.80            |
| Bandwidth                   | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up<br>Limit |
|                             |            |         |           | 19965/1711.5            | 20175/1732.5 | 20385/1753.5 |                  |
| 3MHz                        | QPSK       | 1       | 0         | 23.27                   | 23.28        | 23.21        | 23.80            |
|                             |            | 1       | 7         | 23.12                   | 23.08        | 23.05        | 23.80            |
|                             |            | 1       | 14        | 23.15                   | 23.10        | 22.98        | 23.80            |
|                             |            | 8       | 0         | 23.16                   | 23.10        | 22.91        | 23.80            |
|                             |            | 8       | 4         | 23.22                   | 23.13        | 23.09        | 23.80            |
|                             |            | 8       | 7         | 23.10                   | 22.98        | 23.05        | 23.80            |
|                             |            | 15      | 0         | 22.98                   | 23.19        | 23.02        | 23.80            |
|                             | 16QAM      | 1       | 0         | 23.09                   | 23.24        | 23.32        | 23.80            |
|                             |            | 1       | 7         | 23.25                   | 23.29        | 23.13        | 23.80            |
|                             |            | 1       | 14        | 22.86                   | 23.31        | 22.92        | 23.80            |
|                             |            | 8       | 0         | 21.91                   | 22.18        | 22.08        | 22.80            |
|                             |            | 8       | 4         | 22.18                   | 22.16        | 22.08        | 22.80            |
|                             |            | 8       | 7         | 21.89                   | 22.08        | 22.03        | 22.80            |
|                             |            | 15      | 0         | 22.22                   | 22.16        | 22.06        | 22.80            |
|                             | 64QAM      | 1       | 0         | 22.33                   | 22.46        | 22.05        | 22.80            |
|                             |            | 1       | 7         | 22.25                   | 22.21        | 21.82        | 22.80            |



|           |            | 1       | 14        | 22.33                   | 22.18        | 22.12        | 22.80         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 8       | 0         | 21.37                   | 21.02        | 21.24        | 21.80         |
|           |            | 8       | 4         | 21.12                   | 20.93        | 21.26        | 21.80         |
|           |            | 8       | 7         | 20.96                   | 20.92        | 21.20        | 21.80         |
|           |            | 15      | 0         | 21.02                   | 21.21        | 21.27        | 21.80         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 19975/1712.5            | 20175/1732.5 | 20375/1752.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 23.24                   | 23.26        | 23.17        | 23.80         |
|           |            | 1       | 13        | 23.10                   | 23.04        | 23.02        | 23.80         |
|           |            | 1       | 24        | 23.12                   | 23.05        | 22.94        | 23.80         |
|           |            | 12      | 0         | 23.13                   | 23.05        | 22.87        | 23.80         |
|           |            | 12      | 6         | 23.20                   | 23.09        | 23.04        | 23.80         |
|           |            | 12      | 13        | 23.08                   | 22.96        | 23.01        | 23.80         |
|           |            | 25      | 0         | 22.96                   | 23.18        | 23.00        | 23.80         |
|           | 16QAM      | 1       | 0         | 23.06                   | 23.20        | 23.29        | 23.80         |
|           |            | 1       | 13        | 23.22                   | 23.27        | 23.10        | 23.80         |
|           |            | 1       | 24        | 22.83                   | 23.29        | 22.88        | 23.80         |
|           |            | 12      | 0         | 21.89                   | 22.14        | 22.05        | 22.80         |
|           |            | 12      | 6         | 22.15                   | 22.11        | 22.04        | 22.80         |
|           |            | 12      | 13        | 21.86                   | 22.03        | 21.99        | 22.80         |
|           |            | 25      | 0         | 22.20                   | 22.12        | 22.01        | 22.80         |
|           | 64QAM      | 1       | 0         | 22.30                   | 22.42        | 22.02        | 22.80         |
|           |            | 1       | 13        | 22.22                   | 22.19        | 21.79        | 22.80         |
|           |            | 1       | 24        | 22.30                   | 22.16        | 22.08        | 22.80         |
|           |            | 12      | 0         | 21.35                   | 20.98        | 21.21        | 21.80         |
|           |            | 12      | 6         | 21.09                   | 20.88        | 21.22        | 21.80         |
|           |            | 12      | 13        | 20.93                   | 20.87        | 21.16        | 21.80         |
|           |            | 25      | 0         | 21.00                   | 21.17        | 21.22        | 21.80         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20000/1715              | 20175/1732.5 | 20350/1750   |               |
| 10MHz     | QPSK       | 1       | 0         | 23.26                   | 23.27        | 23.20        | 23.80         |
|           |            | 1       | 25        | 23.13                   | 23.09        | 23.06        | 23.80         |
|           |            | 1       | 49        | 23.14                   | 23.09        | 22.97        | 23.80         |
|           |            | 25      | 0         | 23.16                   | 23.10        | 22.91        | 23.80         |
|           |            | 25      | 13        | 23.23                   | 23.14        | 23.08        | 23.80         |
|           |            | 25      | 25        | 23.10                   | 23.00        | 23.06        | 23.80         |
|           |            | 50      | 0         | 23.04                   | 23.20        | 23.04        | 23.80         |
|           | 16QAM      | 1       | 0         | 23.08                   | 23.23        | 23.31        | 23.80         |
|           |            | 1       | 25        | 23.25                   | 23.31        | 23.13        | 23.80         |
|           |            | 1       | 49        | 22.86                   | 23.31        | 22.91        | 23.80         |
|           |            | 25      | 0         | 21.92                   | 22.19        | 22.09        | 22.80         |
|           |            | 25      | 13        | 22.17                   | 22.15        | 22.07        | 22.80         |
|           |            | 25      | 25        | 21.89                   | 22.08        | 22.03        | 22.80         |



|           | 64QAM      | 50      | 0         | 22.23                   | 22.17        | 22.05        | 22.80         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 1       | 0         | 22.32                   | 22.45        | 22.04        | 22.80         |
|           |            | 1       | 25        | 22.25                   | 22.23        | 21.82        | 22.80         |
|           |            | 1       | 49        | 22.33                   | 22.18        | 22.11        | 22.80         |
|           |            | 25      | 0         | 21.38                   | 21.03        | 21.25        | 21.80         |
|           |            | 25      | 13        | 21.11                   | 20.92        | 21.25        | 21.80         |
|           |            | 25      | 25        | 20.96                   | 20.92        | 21.20        | 21.80         |
|           |            | 50      | 0         | 21.03                   | 21.22        | 21.26        | 21.80         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20025/1717.5            | 20175/1732.5 | 20325/1747.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 23.25                   | 23.23        | 23.18        | 23.80         |
|           |            | 1       | 38        | 23.11                   | 23.08        | 23.03        | 23.80         |
|           |            | 1       | 74        | 23.11                   | 23.04        | 22.93        | 23.80         |
|           |            | 36      | 0         | 23.14                   | 23.06        | 22.88        | 23.80         |
|           |            | 36      | 18        | 23.20                   | 23.09        | 23.04        | 23.80         |
|           |            | 36      | 39        | 23.07                   | 22.97        | 23.02        | 23.80         |
|           |            | 75      | 0         | 23.02                   | 23.16        | 22.99        | 23.80         |
|           | 16QAM      | 1       | 0         | 23.03                   | 23.21        | 23.29        | 23.80         |
|           |            | 1       | 38        | 23.23                   | 23.28        | 23.11        | 23.80         |
|           |            | 1       | 74        | 22.83                   | 23.27        | 22.88        | 23.80         |
|           |            | 36      | 0         | 21.89                   | 22.17        | 22.06        | 22.80         |
|           |            | 36      | 18        | 22.14                   | 22.10        | 22.03        | 22.80         |
|           |            | 36      | 39        | 21.87                   | 22.04        | 22.00        | 22.80         |
|           |            | 75      | 0         | 22.20                   | 22.12        | 22.01        | 22.80         |
|           | 64QAM      | 1       | 0         | 22.27                   | 22.43        | 22.02        | 22.80         |
|           |            | 1       | 38        | 22.23                   | 22.20        | 21.80        | 22.80         |
|           |            | 1       | 74        | 22.30                   | 22.14        | 22.08        | 22.80         |
|           |            | 36      | 0         | 21.35                   | 21.01        | 21.22        | 21.80         |
|           |            | 36      | 18        | 21.08                   | 20.87        | 21.21        | 21.80         |
|           |            | 36      | 39        | 20.94                   | 20.88        | 21.17        | 21.80         |
|           |            | 75      | 0         | 21.00                   | 21.17        | 21.22        | 21.80         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20050/1720              | 20175/1732.5 | 20300/1745   |               |
| 20MHz     | QPSK       | 1       | 0         | 23.22                   | 23.19        | 23.15        | 23.80         |
|           |            | 1       | 50        | 23.10                   | 23.04        | 23.01        | 23.80         |
|           |            | 1       | 99        | 23.09                   | 23.03        | 22.90        | 23.80         |
|           |            | 50      | 0         | 23.11                   | 23.01        | 22.84        | 23.80         |
|           |            | 50      | 25        | 23.18                   | 23.05        | 23.01        | 23.80         |
|           |            | 50      | 50        | 23.04                   | 22.92        | 22.98        | 23.80         |
|           |            | 100     | 0         | 22.99                   | 23.11        | 22.95        | 23.80         |
|           | 16QAM      | 1       | 0         | 23.01                   | 23.17        | 23.24        | 23.80         |
|           |            | 1       | 50        | 23.19                   | 23.26        | 23.07        | 23.80         |
|           |            | 1       | 99        | 22.81                   | 23.24        | 22.86        | 23.80         |



|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  |       | 50  | 0  | 21.86 | 22.13 | 22.03 | 22.80 |
|  |       | 50  | 25 | 22.11 | 22.08 | 22.00 | 22.80 |
|  |       | 50  | 50 | 21.84 | 21.99 | 21.96 | 22.80 |
|  |       | 100 | 0  | 22.18 | 22.08 | 21.98 | 22.80 |
|  | 64QAM | 1   | 0  | 22.25 | 22.39 | 21.97 | 22.80 |
|  |       | 1   | 50 | 22.19 | 22.18 | 21.76 | 22.80 |
|  |       | 1   | 99 | 22.28 | 22.11 | 22.06 | 22.80 |
|  |       | 50  | 0  | 21.32 | 20.97 | 21.19 | 21.80 |
|  |       | 50  | 25 | 21.05 | 20.85 | 21.18 | 21.80 |
|  |       | 50  | 50 | 20.91 | 20.83 | 21.13 | 21.80 |
|  |       | 100 | 0  | 20.98 | 21.13 | 21.19 | 21.80 |

| LTE FDD Band 4<br>(REC Off+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |              |              |               |
|--------------------------------------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
| Bandwidth                            | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|                                      |            |         |           | 19957/1710.7            | 20175/1732.5 | 20393/1754.3 |               |
| 1.4MHz                               | QPSK       | 1       | 0         | 20.37                   | 20.40        | 20.25        | 21.00         |
|                                      |            | 1       | 2         | 19.92                   | 20.24        | 20.19        | 21.00         |
|                                      |            | 1       | 5         | 20.30                   | 20.20        | 20.13        | 21.00         |
|                                      |            | 3       | 0         | 20.12                   | 20.23        | 20.20        | 21.00         |
|                                      |            | 3       | 2         | 20.24                   | 20.23        | 20.21        | 21.00         |
|                                      |            | 3       | 3         | 20.15                   | 20.14        | 20.16        | 21.00         |
|                                      |            | 6       | 0         | 20.12                   | 20.25        | 20.10        | 21.00         |
|                                      | 16QAM      | 1       | 0         | 20.25                   | 20.32        | 19.98        | 21.00         |
|                                      |            | 1       | 2         | 19.95                   | 19.88        | 19.96        | 21.00         |
|                                      |            | 1       | 5         | 20.20                   | 20.20        | 20.03        | 21.00         |
|                                      |            | 3       | 0         | 20.12                   | 20.25        | 20.13        | 21.00         |
|                                      |            | 3       | 2         | 20.17                   | 20.16        | 20.08        | 21.00         |
|                                      |            | 3       | 3         | 20.17                   | 20.15        | 20.03        | 21.00         |
|                                      |            | 6       | 0         | 20.13                   | 20.04        | 20.07        | 21.00         |
|                                      | 64QAM      | 1       | 0         | 20.05                   | 20.20        | 20.22        | 21.00         |
|                                      |            | 1       | 2         | 20.18                   | 20.10        | 20.13        | 21.00         |
|                                      |            | 1       | 5         | 20.12                   | 20.04        | 20.15        | 21.00         |
|                                      |            | 3       | 0         | 20.19                   | 20.15        | 20.10        | 21.00         |
|                                      |            | 3       | 2         | 20.12                   | 19.97        | 20.00        | 21.00         |
|                                      |            | 3       | 3         | 20.06                   | 20.10        | 19.98        | 21.00         |
|                                      |            | 6       | 0         | 20.08                   | 20.03        | 20.06        | 21.00         |
| Bandwidth                            | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|                                      |            |         |           | 19965/1711.5            | 20175/1732.5 | 20385/1753.5 |               |
| 3MHz                                 | QPSK       | 1       | 0         | 20.34                   | 20.36        | 20.22        | 21.00         |
|                                      |            | 1       | 7         | 19.91                   | 20.20        | 20.17        | 21.00         |
|                                      |            | 1       | 14        | 20.28                   | 20.19        | 20.10        | 21.00         |
|                                      |            | 8       | 0         | 20.09                   | 20.18        | 20.16        | 21.00         |





|           |            | 8       | 4         | 20.22                   | 20.19        | 20.18        | 21.00         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 8       | 7         | 20.12                   | 20.09        | 20.12        | 21.00         |
|           |            | 15      | 0         | 20.09                   | 20.20        | 20.06        | 21.00         |
|           | 16QAM      | 1       | 0         | 20.23                   | 20.28        | 19.93        | 21.00         |
|           |            | 1       | 7         | 19.91                   | 19.86        | 19.92        | 21.00         |
|           |            | 1       | 14        | 20.18                   | 20.17        | 20.01        | 21.00         |
|           |            | 8       | 0         | 20.09                   | 20.21        | 20.10        | 21.00         |
|           |            | 8       | 4         | 20.14                   | 20.14        | 20.05        | 21.00         |
|           |            | 8       | 7         | 20.14                   | 20.10        | 19.99        | 21.00         |
|           |            | 15      | 0         | 20.11                   | 20.00        | 20.04        | 21.00         |
|           | 64QAM      | 1       | 0         | 20.03                   | 20.16        | 20.17        | 21.00         |
|           |            | 1       | 7         | 20.14                   | 20.08        | 20.09        | 21.00         |
|           |            | 1       | 14        | 20.10                   | 20.01        | 20.13        | 21.00         |
|           |            | 8       | 0         | 20.16                   | 20.11        | 20.07        | 21.00         |
|           |            | 8       | 4         | 20.09                   | 19.95        | 19.97        | 21.00         |
|           |            | 8       | 7         | 20.03                   | 20.05        | 19.94        | 21.00         |
|           |            | 15      | 0         | 20.06                   | 19.99        | 20.03        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 19975/1712.5            | 20175/1732.5 | 20375/1752.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 20.31                   | 20.34        | 20.18        | 21.00         |
|           |            | 1       | 13        | 19.89                   | 20.16        | 20.14        | 21.00         |
|           |            | 1       | 24        | 20.25                   | 20.14        | 20.06        | 21.00         |
|           |            | 12      | 0         | 20.06                   | 20.13        | 20.12        | 21.00         |
|           |            | 12      | 6         | 20.20                   | 20.15        | 20.13        | 21.00         |
|           |            | 12      | 13        | 20.10                   | 20.07        | 20.08        | 21.00         |
|           |            | 25      | 0         | 20.07                   | 20.19        | 20.04        | 21.00         |
|           | 16QAM      | 1       | 0         | 20.20                   | 20.24        | 19.90        | 21.00         |
|           |            | 1       | 13        | 19.88                   | 19.84        | 19.89        | 21.00         |
|           |            | 1       | 24        | 20.15                   | 20.15        | 19.97        | 21.00         |
|           |            | 12      | 0         | 20.07                   | 20.17        | 20.07        | 21.00         |
|           |            | 12      | 6         | 20.11                   | 20.09        | 20.01        | 21.00         |
|           |            | 12      | 13        | 20.11                   | 20.05        | 19.95        | 21.00         |
|           |            | 25      | 0         | 20.09                   | 19.96        | 19.99        | 21.00         |
|           | 64QAM      | 1       | 0         | 20.00                   | 20.12        | 20.14        | 21.00         |
|           |            | 1       | 13        | 20.11                   | 20.06        | 20.06        | 21.00         |
|           |            | 1       | 24        | 20.07                   | 19.99        | 20.09        | 21.00         |
|           |            | 12      | 0         | 20.14                   | 20.07        | 20.04        | 21.00         |
|           |            | 12      | 6         | 20.06                   | 19.90        | 19.93        | 21.00         |
|           |            | 12      | 13        | 20.00                   | 20.00        | 19.90        | 21.00         |
|           |            | 25      | 0         | 20.04                   | 19.95        | 19.98        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20000/1715              | 20175/1732.5 | 20350/1750   |               |
| 10MHz     | QPSK       | 1       | 0         | 20.33                   | 20.35        | 20.21        | 21.00         |



|           |            | 1       | 25        | 19.92                   | 20.21        | 20.18        | 21.00         |
|-----------|------------|---------|-----------|-------------------------|--------------|--------------|---------------|
|           |            | 1       | 49        | 20.27                   | 20.18        | 20.09        | 21.00         |
|           |            | 25      | 0         | 20.09                   | 20.18        | 20.16        | 21.00         |
|           |            | 25      | 13        | 20.23                   | 20.20        | 20.17        | 21.00         |
|           |            | 25      | 25        | 20.12                   | 20.11        | 20.13        | 21.00         |
|           |            | 50      | 0         | 20.15                   | 20.21        | 20.08        | 21.00         |
|           | 16QAM      | 1       | 0         | 20.22                   | 20.27        | 19.92        | 21.00         |
|           |            | 1       | 25        | 19.91                   | 19.88        | 19.92        | 21.00         |
|           |            | 1       | 49        | 20.18                   | 20.17        | 20.00        | 21.00         |
|           |            | 25      | 0         | 20.10                   | 20.22        | 20.11        | 21.00         |
|           |            | 25      | 13        | 20.13                   | 20.13        | 20.04        | 21.00         |
|           |            | 25      | 25        | 20.14                   | 20.10        | 19.99        | 21.00         |
|           |            | 50      | 0         | 20.12                   | 20.01        | 20.03        | 21.00         |
|           | 64QAM      | 1       | 0         | 20.02                   | 20.15        | 20.16        | 21.00         |
|           |            | 1       | 25        | 20.14                   | 20.10        | 20.09        | 21.00         |
|           |            | 1       | 49        | 20.10                   | 20.01        | 20.12        | 21.00         |
|           |            | 25      | 0         | 20.17                   | 20.12        | 20.08        | 21.00         |
|           |            | 25      | 13        | 20.08                   | 19.94        | 19.96        | 21.00         |
|           |            | 25      | 25        | 20.03                   | 20.05        | 19.94        | 21.00         |
|           |            | 50      | 0         | 20.07                   | 20.00        | 20.02        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |              | Tune-up Limit |
|           |            |         |           | 20025/1717.5            | 20175/1732.5 | 20325/1747.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 20.32                   | 20.31        | 20.19        | 21.00         |
|           |            | 1       | 38        | 19.90                   | 20.20        | 20.15        | 21.00         |
|           |            | 1       | 74        | 20.24                   | 20.13        | 20.05        | 21.00         |
|           |            | 36      | 0         | 20.07                   | 20.14        | 20.13        | 21.00         |
|           |            | 36      | 18        | 20.20                   | 20.15        | 20.13        | 21.00         |
|           |            | 36      | 39        | 20.09                   | 20.08        | 20.09        | 21.00         |
|           |            | 75      | 0         | 20.13                   | 20.17        | 20.03        | 21.00         |
|           | 16QAM      | 1       | 0         | 20.17                   | 20.25        | 19.90        | 21.00         |
|           |            | 1       | 38        | 19.89                   | 19.85        | 19.90        | 21.00         |
|           |            | 1       | 74        | 20.15                   | 20.13        | 19.97        | 21.00         |
|           |            | 36      | 0         | 20.07                   | 20.20        | 20.08        | 21.00         |
|           |            | 36      | 18        | 20.10                   | 20.08        | 20.00        | 21.00         |
|           |            | 36      | 39        | 20.12                   | 20.06        | 19.96        | 21.00         |
|           |            | 75      | 0         | 20.09                   | 19.96        | 19.99        | 21.00         |
|           | 64QAM      | 1       | 0         | 19.97                   | 20.13        | 20.14        | 21.00         |
|           |            | 1       | 38        | 20.12                   | 20.07        | 20.07        | 21.00         |
|           |            | 1       | 74        | 20.07                   | 19.97        | 20.09        | 21.00         |
|           |            | 36      | 0         | 20.14                   | 20.10        | 20.05        | 21.00         |
|           |            | 36      | 18        | 20.05                   | 19.89        | 19.92        | 21.00         |
|           |            | 36      | 39        | 20.01                   | 20.01        | 19.91        | 21.00         |
|           |            | 75      | 0         | 20.04                   | 19.95        | 19.98        | 21.00         |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |              |            | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|--------------|------------|---------------|
|           |            |         |           | 20050/1720              | 20175/1732.5 | 20300/1745 |               |
| 20MHz     | QPSK       | 1       | 0         | 20.29                   | 20.27        | 20.16      | 21.00         |
|           |            | 1       | 50        | 19.89                   | 20.16        | 20.13      | 21.00         |
|           |            | 1       | 99        | 20.22                   | 20.12        | 20.02      | 21.00         |
|           |            | 50      | 0         | 20.04                   | 20.09        | 20.09      | 21.00         |
|           |            | 50      | 25        | 20.18                   | 20.11        | 20.10      | 21.00         |
|           |            | 50      | 50        | 20.06                   | 20.03        | 20.05      | 21.00         |
|           |            | 100     | 0         | 20.10                   | 20.12        | 19.99      | 21.00         |
|           | 16QAM      | 1       | 0         | 20.15                   | 20.21        | 19.85      | 21.00         |
|           |            | 1       | 50        | 19.85                   | 19.83        | 19.86      | 21.00         |
|           |            | 1       | 99        | 20.13                   | 20.10        | 19.95      | 21.00         |
|           |            | 50      | 0         | 20.04                   | 20.16        | 20.05      | 21.00         |
|           |            | 50      | 25        | 20.07                   | 20.06        | 19.97      | 21.00         |
|           |            | 50      | 50        | 20.09                   | 20.01        | 19.92      | 21.00         |
|           |            | 100     | 0         | 20.07                   | 19.92        | 19.96      | 21.00         |
|           | 64QAM      | 1       | 0         | 19.95                   | 20.09        | 20.09      | 21.00         |
|           |            | 1       | 50        | 20.08                   | 20.05        | 20.03      | 21.00         |
|           |            | 1       | 99        | 20.05                   | 19.94        | 20.07      | 21.00         |
|           |            | 50      | 0         | 20.11                   | 20.06        | 20.02      | 21.00         |
|           |            | 50      | 25        | 20.02                   | 19.87        | 19.89      | 21.00         |
|           |            | 50      | 50        | 19.98                   | 19.96        | 19.87      | 21.00         |
|           |            | 100     | 0         | 20.02                   | 19.91        | 19.95      | 21.00         |

| LTE FDD Band 5<br>(REC On+Left Head) |            |         |           | Conducted Power(dBm)    |             |             |               |
|--------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
| Bandwidth                            | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                      |            |         |           | 20407/824.7             | 20525/836.5 | 20643/848.3 |               |
| 1.4MHz                               | QPSK       | 1       | 0         | 19.91                   | 19.86       | 19.91       | 20.50         |
|                                      |            | 1       | 2         | 19.81                   | 19.75       | 19.76       | 20.50         |
|                                      |            | 1       | 5         | 19.77                   | 19.77       | 19.96       | 20.50         |
|                                      |            | 3       | 0         | 19.82                   | 19.82       | 19.80       | 20.50         |
|                                      |            | 3       | 2         | 19.79                   | 19.80       | 19.90       | 20.50         |
|                                      |            | 3       | 3         | 19.77                   | 19.76       | 19.71       | 20.50         |
|                                      |            | 6       | 0         | 19.67                   | 19.84       | 19.90       | 20.50         |
|                                      | 16QAM      | 1       | 0         | 19.79                   | 19.71       | 19.88       | 20.50         |
|                                      |            | 1       | 2         | 19.83                   | 19.84       | 19.73       | 20.50         |
|                                      |            | 1       | 5         | 19.86                   | 19.86       | 19.95       | 20.50         |
|                                      |            | 3       | 0         | 19.72                   | 19.58       | 19.67       | 20.50         |
|                                      |            | 3       | 2         | 19.75                   | 19.72       | 19.79       | 20.50         |
|                                      |            | 3       | 3         | 19.65                   | 19.71       | 19.63       | 20.50         |
|                                      |            | 6       | 0         | 19.79                   | 19.84       | 19.81       | 20.50         |
|                                      | 64QAM      | 1       | 0         | 19.65                   | 19.83       | 19.87       | 20.50         |



|           |            | 1       | 2         | 19.82                   | 19.43       | 19.88       | 20.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 1       | 5         | 19.74                   | 19.76       | 19.84       | 20.50         |
|           |            | 3       | 0         | 19.78                   | 19.80       | 19.79       | 20.50         |
|           |            | 3       | 2         | 19.78                   | 19.86       | 19.76       | 20.50         |
|           |            | 3       | 3         | 19.63                   | 19.70       | 19.66       | 20.50         |
|           |            | 6       | 0         | 19.76                   | 19.87       | 19.72       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20415/825.5             | 20525/836.5 | 20635/847.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 19.93                   | 19.87       | 19.94       | 20.50         |
|           |            | 1       | 7         | 19.84                   | 19.80       | 19.80       | 20.50         |
|           |            | 1       | 14        | 19.79                   | 19.81       | 19.99       | 20.50         |
|           |            | 8       | 0         | 19.85                   | 19.87       | 19.84       | 20.50         |
|           |            | 8       | 4         | 19.82                   | 19.85       | 19.94       | 20.50         |
|           |            | 8       | 7         | 19.79                   | 19.80       | 19.76       | 20.50         |
|           |            | 15      | 0         | 19.75                   | 19.86       | 19.94       | 20.50         |
|           | 16QAM      | 1       | 0         | 19.81                   | 19.74       | 19.90       | 20.50         |
|           |            | 1       | 7         | 19.86                   | 19.88       | 19.76       | 20.50         |
|           |            | 1       | 14        | 19.89                   | 19.88       | 19.98       | 20.50         |
|           |            | 8       | 0         | 19.75                   | 19.63       | 19.71       | 20.50         |
|           |            | 8       | 4         | 19.77                   | 19.76       | 19.82       | 20.50         |
|           |            | 8       | 7         | 19.68                   | 19.76       | 19.67       | 20.50         |
|           |            | 15      | 0         | 19.82                   | 19.89       | 19.85       | 20.50         |
|           | 64QAM      | 1       | 0         | 19.67                   | 19.86       | 19.89       | 20.50         |
|           |            | 1       | 7         | 19.85                   | 19.47       | 19.91       | 20.50         |
|           |            | 1       | 14        | 19.77                   | 19.78       | 19.87       | 20.50         |
|           |            | 8       | 0         | 19.81                   | 19.85       | 19.83       | 20.50         |
|           |            | 8       | 4         | 19.80                   | 19.90       | 19.79       | 20.50         |
|           |            | 8       | 7         | 19.66                   | 19.75       | 19.70       | 20.50         |
|           |            | 15      | 0         | 19.79                   | 19.92       | 19.76       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20425/826.5             | 20525/836.5 | 20625/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 19.92                   | 19.83       | 19.92       | 20.50         |
|           |            | 1       | 13        | 19.82                   | 19.79       | 19.77       | 20.50         |
|           |            | 1       | 24        | 19.76                   | 19.76       | 19.95       | 20.50         |
|           |            | 12      | 0         | 19.83                   | 19.83       | 19.81       | 20.50         |
|           |            | 12      | 6         | 19.79                   | 19.80       | 19.90       | 20.50         |
|           |            | 12      | 13        | 19.76                   | 19.77       | 19.72       | 20.50         |
|           |            | 25      | 0         | 19.73                   | 19.82       | 19.89       | 20.50         |
|           | 16QAM      | 1       | 0         | 19.76                   | 19.72       | 19.88       | 20.50         |
|           |            | 1       | 13        | 19.84                   | 19.85       | 19.74       | 20.50         |
|           |            | 1       | 24        | 19.86                   | 19.84       | 19.95       | 20.50         |
|           |            | 12      | 0         | 19.72                   | 19.61       | 19.68       | 20.50         |
|           |            | 12      | 6         | 19.74                   | 19.71       | 19.78       | 20.50         |



|           |            | 12      | 13        | 19.66                   | 19.72       | 19.64     | 20.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-----------|---------------|
|           |            | 25      | 0         | 19.79                   | 19.84       | 19.81     | 20.50         |
|           | 64QAM      | 1       | 0         | 19.62                   | 19.84       | 19.87     | 20.50         |
|           |            | 1       | 13        | 19.83                   | 19.44       | 19.89     | 20.50         |
|           |            | 1       | 24        | 19.74                   | 19.74       | 19.84     | 20.50         |
|           |            | 12      | 0         | 19.78                   | 19.83       | 19.80     | 20.50         |
|           |            | 12      | 6         | 19.77                   | 19.85       | 19.75     | 20.50         |
|           |            | 12      | 13        | 19.64                   | 19.71       | 19.67     | 20.50         |
|           |            | 25      | 0         | 19.76                   | 19.87       | 19.72     | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |           | Tune-up Limit |
|           |            |         |           | 20450/829               | 20525/836.5 | 20600/844 |               |
| 10MHz     | QPSK       | 1       | 0         | 19.89                   | 19.79       | 19.89     | 20.50         |
|           |            | 1       | 25        | 19.81                   | 19.75       | 19.75     | 20.50         |
|           |            | 1       | 49        | 19.74                   | 19.75       | 19.92     | 20.50         |
|           |            | 25      | 0         | 19.80                   | 19.78       | 19.77     | 20.50         |
|           |            | 25      | 13        | 19.77                   | 19.76       | 19.87     | 20.50         |
|           |            | 25      | 25        | 19.73                   | 19.72       | 19.68     | 20.50         |
|           |            | 50      | 0         | 19.70                   | 19.77       | 19.85     | 20.50         |
|           | 16QAM      | 1       | 0         | 19.74                   | 19.68       | 19.83     | 20.50         |
|           |            | 1       | 25        | 19.80                   | 19.83       | 19.70     | 20.50         |
|           |            | 1       | 49        | 19.84                   | 19.81       | 19.93     | 20.50         |
|           |            | 25      | 0         | 19.69                   | 19.57       | 19.65     | 20.50         |
|           |            | 25      | 13        | 19.71                   | 19.69       | 19.75     | 20.50         |
|           |            | 25      | 25        | 19.63                   | 19.67       | 19.60     | 20.50         |
|           |            | 50      | 0         | 19.77                   | 19.80       | 19.78     | 20.50         |
|           | 64QAM      | 1       | 0         | 19.60                   | 19.80       | 19.82     | 20.50         |
|           |            | 1       | 25        | 19.79                   | 19.42       | 19.85     | 20.50         |
|           |            | 1       | 49        | 19.72                   | 19.71       | 19.82     | 20.50         |
|           |            | 25      | 0         | 19.75                   | 19.79       | 19.77     | 20.50         |
|           |            | 25      | 13        | 19.74                   | 19.83       | 19.72     | 20.50         |
|           |            | 25      | 25        | 19.61                   | 19.66       | 19.63     | 20.50         |
|           |            | 50      | 0         | 19.74                   | 19.83       | 19.69     | 20.50         |

| LTE FDD Band 5<br>(REC On+Right Head) |            |         |           | Conducted Power(dBm)    |             |             |               |
|---------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                       |            |         |           | 20407/824.7             | 20525/836.5 | 20643/848.3 |               |
| 1.4MHz                                | QPSK       | 1       | 0         | 19.34                   | 19.38       | 19.33       | 20.00         |
|                                       |            | 1       | 2         | 19.16                   | 19.29       | 19.33       | 20.00         |
|                                       |            | 1       | 5         | 19.28                   | 19.30       | 19.43       | 20.00         |
|                                       |            | 3       | 0         | 19.28                   | 19.33       | 19.36       | 20.00         |
|                                       |            | 3       | 2         | 19.26                   | 19.32       | 19.39       | 20.00         |
|                                       |            | 3       | 3         | 19.22                   | 19.36       | 19.34       | 20.00         |



|           | 16QAM      | 6       | 0         | 19.22                   | 19.33       | 19.39       | 20.00         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 1       | 0         | 19.22                   | 19.04       | 19.44       | 20.00         |
|           |            | 1       | 2         | 19.15                   | 19.33       | 19.34       | 20.00         |
|           |            | 1       | 5         | 19.18                   | 19.27       | 19.17       | 20.00         |
|           |            | 3       | 0         | 19.20                   | 19.18       | 19.27       | 20.00         |
|           |            | 3       | 2         | 19.33                   | 19.23       | 19.27       | 20.00         |
|           |            | 3       | 3         | 19.24                   | 19.28       | 19.32       | 20.00         |
|           |            | 6       | 0         | 19.19                   | 19.19       | 19.30       | 20.00         |
|           | 64QAM      | 1       | 0         | 19.39                   | 19.16       | 19.30       | 20.00         |
|           |            | 1       | 2         | 19.23                   | 19.09       | 19.36       | 20.00         |
|           |            | 1       | 5         | 19.31                   | 19.34       | 19.39       | 20.00         |
|           |            | 3       | 0         | 19.25                   | 19.25       | 19.27       | 20.00         |
|           |            | 3       | 2         | 19.22                   | 19.39       | 19.26       | 20.00         |
|           |            | 3       | 3         | 19.26                   | 19.24       | 19.19       | 20.00         |
|           |            | 6       | 0         | 19.18                   | 19.21       | 19.24       | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20415/825.5             | 20525/836.5 | 20635/847.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 19.36                   | 19.39       | 19.36       | 20.00         |
|           |            | 1       | 7         | 19.19                   | 19.34       | 19.37       | 20.00         |
|           |            | 1       | 14        | 19.30                   | 19.34       | 19.46       | 20.00         |
|           |            | 8       | 0         | 19.31                   | 19.38       | 19.40       | 20.00         |
|           |            | 8       | 4         | 19.29                   | 19.37       | 19.43       | 20.00         |
|           |            | 8       | 7         | 19.24                   | 19.40       | 19.39       | 20.00         |
|           |            | 15      | 0         | 19.30                   | 19.35       | 19.43       | 20.00         |
|           | 16QAM      | 1       | 0         | 19.24                   | 19.07       | 19.46       | 20.00         |
|           |            | 1       | 7         | 19.18                   | 19.37       | 19.37       | 20.00         |
|           |            | 1       | 14        | 19.21                   | 19.29       | 19.20       | 20.00         |
|           |            | 8       | 0         | 19.23                   | 19.23       | 19.31       | 20.00         |
|           |            | 8       | 4         | 19.35                   | 19.27       | 19.30       | 20.00         |
|           |            | 8       | 7         | 19.27                   | 19.33       | 19.36       | 20.00         |
|           |            | 15      | 0         | 19.22                   | 19.24       | 19.34       | 20.00         |
|           | 64QAM      | 1       | 0         | 19.41                   | 19.19       | 19.32       | 20.00         |
|           |            | 1       | 7         | 19.26                   | 19.13       | 19.39       | 20.00         |
|           |            | 1       | 14        | 19.34                   | 19.36       | 19.42       | 20.00         |
|           |            | 8       | 0         | 19.28                   | 19.30       | 19.31       | 20.00         |
|           |            | 8       | 4         | 19.24                   | 19.43       | 19.29       | 20.00         |
|           |            | 8       | 7         | 19.29                   | 19.29       | 19.23       | 20.00         |
|           |            | 15      | 0         | 19.21                   | 19.26       | 19.28       | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20425/826.5             | 20525/836.5 | 20625/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 19.35                   | 19.35       | 19.34       | 20.00         |
|           |            | 1       | 13        | 19.17                   | 19.33       | 19.34       | 20.00         |
|           |            | 1       | 24        | 19.27                   | 19.29       | 19.42       | 20.00         |



|           |            | 12      | 0         | 19.29                   | 19.34       | 19.37     | 20.00         |
|-----------|------------|---------|-----------|-------------------------|-------------|-----------|---------------|
|           |            | 12      | 6         | 19.26                   | 19.32       | 19.39     | 20.00         |
|           |            | 12      | 13        | 19.21                   | 19.37       | 19.35     | 20.00         |
|           |            | 25      | 0         | 19.28                   | 19.31       | 19.38     | 20.00         |
|           | 16QAM      | 1       | 0         | 19.19                   | 19.05       | 19.44     | 20.00         |
|           |            | 1       | 13        | 19.16                   | 19.34       | 19.35     | 20.00         |
|           |            | 1       | 24        | 19.18                   | 19.25       | 19.17     | 20.00         |
|           |            | 12      | 0         | 19.20                   | 19.21       | 19.28     | 20.00         |
|           |            | 12      | 6         | 19.32                   | 19.22       | 19.26     | 20.00         |
|           |            | 12      | 13        | 19.25                   | 19.29       | 19.33     | 20.00         |
|           |            | 25      | 0         | 19.19                   | 19.19       | 19.30     | 20.00         |
|           | 64QAM      | 1       | 0         | 19.36                   | 19.17       | 19.30     | 20.00         |
|           |            | 1       | 13        | 19.24                   | 19.10       | 19.37     | 20.00         |
|           |            | 1       | 24        | 19.31                   | 19.32       | 19.39     | 20.00         |
|           |            | 12      | 0         | 19.25                   | 19.28       | 19.28     | 20.00         |
|           |            | 12      | 6         | 19.21                   | 19.38       | 19.25     | 20.00         |
|           |            | 12      | 13        | 19.27                   | 19.25       | 19.20     | 20.00         |
|           |            | 25      | 0         | 19.18                   | 19.21       | 19.24     | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |           | Tune-up Limit |
|           |            |         |           | 20450/829               | 20525/836.5 | 20600/844 |               |
| 10MHz     | QPSK       | 1       | 0         | 19.32                   | 19.31       | 19.31     | 20.00         |
|           |            | 1       | 25        | 19.16                   | 19.29       | 19.32     | 20.00         |
|           |            | 1       | 49        | 19.25                   | 19.28       | 19.39     | 20.00         |
|           |            | 25      | 0         | 19.26                   | 19.29       | 19.33     | 20.00         |
|           |            | 25      | 13        | 19.24                   | 19.28       | 19.36     | 20.00         |
|           |            | 25      | 25        | 19.18                   | 19.32       | 19.31     | 20.00         |
|           |            | 50      | 0         | 19.25                   | 19.26       | 19.34     | 20.00         |
|           | 16QAM      | 1       | 0         | 19.17                   | 19.01       | 19.39     | 20.00         |
|           |            | 1       | 25        | 19.12                   | 19.32       | 19.31     | 20.00         |
|           |            | 1       | 49        | 19.16                   | 19.22       | 19.15     | 20.00         |
|           |            | 25      | 0         | 19.17                   | 19.17       | 19.25     | 20.00         |
|           |            | 25      | 13        | 19.29                   | 19.20       | 19.23     | 20.00         |
|           |            | 25      | 25        | 19.22                   | 19.24       | 19.29     | 20.00         |
|           |            | 50      | 0         | 19.17                   | 19.15       | 19.27     | 20.00         |
|           | 64QAM      | 1       | 0         | 19.34                   | 19.13       | 19.25     | 20.00         |
|           |            | 1       | 25        | 19.20                   | 19.08       | 19.33     | 20.00         |
|           |            | 1       | 49        | 19.29                   | 19.29       | 19.37     | 20.00         |
|           |            | 25      | 0         | 19.22                   | 19.24       | 19.25     | 20.00         |
|           |            | 25      | 13        | 19.18                   | 19.36       | 19.22     | 20.00         |
|           |            | 25      | 25        | 19.24                   | 19.20       | 19.16     | 20.00         |
|           |            | 50      | 0         | 19.16                   | 19.17       | 19.21     | 20.00         |



| LTE FDD Band 5<br>(REC On+Left Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |             |             |                  |
|-----------------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|------------------|
| Bandwidth                                     | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                               |            |         |           | 20407/824.7             | 20525/836.5 | 20643/848.3 |                  |
| 1.4MHz                                        | QPSK       | 1       | 0         | 16.85                   | 16.80       | 16.85       | 17.50            |
|                                               |            | 1       | 2         | 16.75                   | 16.69       | 16.70       | 17.50            |
|                                               |            | 1       | 5         | 16.73                   | 16.73       | 16.92       | 17.50            |
|                                               |            | 3       | 0         | 16.74                   | 16.74       | 16.72       | 17.50            |
|                                               |            | 3       | 2         | 16.77                   | 16.80       | 16.88       | 17.50            |
|                                               |            | 3       | 3         | 16.81                   | 16.80       | 16.75       | 17.50            |
|                                               |            | 6       | 0         | 16.75                   | 16.92       | 16.98       | 17.50            |
|                                               | 16QAM      | 1       | 0         | 16.84                   | 16.76       | 16.93       | 17.50            |
|                                               |            | 1       | 2         | 16.59                   | 16.60       | 16.49       | 17.50            |
|                                               |            | 1       | 5         | 16.78                   | 16.78       | 16.87       | 17.50            |
|                                               |            | 3       | 0         | 16.76                   | 16.62       | 16.71       | 17.50            |
|                                               |            | 3       | 2         | 16.73                   | 16.70       | 16.77       | 17.50            |
|                                               |            | 3       | 3         | 16.74                   | 16.80       | 16.72       | 17.50            |
|                                               |            | 6       | 0         | 16.71                   | 16.76       | 16.73       | 17.50            |
|                                               | 64QAM      | 1       | 0         | 16.71                   | 16.89       | 16.93       | 17.50            |
|                                               |            | 1       | 2         | 16.77                   | 16.38       | 16.83       | 17.50            |
|                                               |            | 1       | 5         | 16.89                   | 16.91       | 16.99       | 17.50            |
|                                               |            | 3       | 0         | 16.65                   | 16.67       | 16.66       | 17.50            |
|                                               |            | 3       | 2         | 16.81                   | 16.89       | 16.79       | 17.50            |
|                                               |            | 3       | 3         | 16.72                   | 16.79       | 16.75       | 17.50            |
|                                               |            | 6       | 0         | 16.67                   | 16.78       | 16.63       | 17.50            |
| Bandwidth                                     | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                               |            |         |           | 20415/825.5             | 20525/836.5 | 20635/847.5 |                  |
| 3MHz                                          | QPSK       | 1       | 0         | 16.87                   | 16.81       | 16.88       | 17.50            |
|                                               |            | 1       | 7         | 16.78                   | 16.74       | 16.74       | 17.50            |
|                                               |            | 1       | 14        | 16.75                   | 16.77       | 16.95       | 17.50            |
|                                               |            | 8       | 0         | 16.77                   | 16.79       | 16.76       | 17.50            |
|                                               |            | 8       | 4         | 16.80                   | 16.85       | 16.92       | 17.50            |
|                                               |            | 8       | 7         | 16.83                   | 16.84       | 16.80       | 17.50            |
|                                               |            | 15      | 0         | 16.83                   | 16.94       | 17.02       | 17.50            |
|                                               | 16QAM      | 1       | 0         | 16.86                   | 16.79       | 16.95       | 17.50            |
|                                               |            | 1       | 7         | 16.62                   | 16.64       | 16.52       | 17.50            |
|                                               |            | 1       | 14        | 16.81                   | 16.80       | 16.90       | 17.50            |
|                                               |            | 8       | 0         | 16.79                   | 16.67       | 16.75       | 17.50            |
|                                               |            | 8       | 4         | 16.75                   | 16.74       | 16.80       | 17.50            |
|                                               |            | 8       | 7         | 16.77                   | 16.85       | 16.76       | 17.50            |
|                                               |            | 15      | 0         | 16.74                   | 16.81       | 16.77       | 17.50            |
|                                               | 64QAM      | 1       | 0         | 16.73                   | 16.92       | 16.95       | 17.50            |
|                                               |            | 1       | 7         | 16.80                   | 16.42       | 16.86       | 17.50            |





|           |            | 1       | 14        | 16.92                   | 16.93       | 17.02       | 17.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 8       | 0         | 16.68                   | 16.72       | 16.70       | 17.50         |
|           |            | 8       | 4         | 16.83                   | 16.93       | 16.82       | 17.50         |
|           |            | 8       | 7         | 16.75                   | 16.84       | 16.79       | 17.50         |
|           |            | 15      | 0         | 16.70                   | 16.83       | 16.67       | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20425/826.5             | 20525/836.5 | 20625/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 16.86                   | 16.77       | 16.86       | 17.50         |
|           |            | 1       | 13        | 16.76                   | 16.73       | 16.71       | 17.50         |
|           |            | 1       | 24        | 16.72                   | 16.72       | 16.91       | 17.50         |
|           |            | 12      | 0         | 16.75                   | 16.75       | 16.73       | 17.50         |
|           |            | 12      | 6         | 16.77                   | 16.80       | 16.88       | 17.50         |
|           |            | 12      | 13        | 16.80                   | 16.81       | 16.76       | 17.50         |
|           |            | 25      | 0         | 16.81                   | 16.90       | 16.97       | 17.50         |
|           | 16QAM      | 1       | 0         | 16.81                   | 16.77       | 16.93       | 17.50         |
|           |            | 1       | 13        | 16.60                   | 16.61       | 16.50       | 17.50         |
|           |            | 1       | 24        | 16.78                   | 16.76       | 16.87       | 17.50         |
|           |            | 12      | 0         | 16.76                   | 16.65       | 16.72       | 17.50         |
|           |            | 12      | 6         | 16.72                   | 16.69       | 16.76       | 17.50         |
|           |            | 12      | 13        | 16.75                   | 16.81       | 16.73       | 17.50         |
|           |            | 25      | 0         | 16.71                   | 16.76       | 16.73       | 17.50         |
|           | 64QAM      | 1       | 0         | 16.68                   | 16.90       | 16.93       | 17.50         |
|           |            | 1       | 13        | 16.78                   | 16.39       | 16.84       | 17.50         |
|           |            | 1       | 24        | 16.89                   | 16.89       | 16.99       | 17.50         |
|           |            | 12      | 0         | 16.65                   | 16.70       | 16.67       | 17.50         |
|           |            | 12      | 6         | 16.80                   | 16.88       | 16.78       | 17.50         |
|           |            | 12      | 13        | 16.73                   | 16.80       | 16.76       | 17.50         |
|           |            | 25      | 0         | 16.67                   | 16.78       | 16.63       | 17.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20450/829               | 20525/836.5 | 20600/844   |               |
| 10MHz     | QPSK       | 1       | 0         | 16.83                   | 16.73       | 16.83       | 17.50         |
|           |            | 1       | 25        | 16.75                   | 16.69       | 16.69       | 17.50         |
|           |            | 1       | 49        | 16.70                   | 16.71       | 16.88       | 17.50         |
|           |            | 25      | 0         | 16.72                   | 16.70       | 16.69       | 17.50         |
|           |            | 25      | 13        | 16.75                   | 16.76       | 16.85       | 17.50         |
|           |            | 25      | 25        | 16.77                   | 16.76       | 16.72       | 17.50         |
|           |            | 50      | 0         | 16.78                   | 16.85       | 16.93       | 17.50         |
|           | 16QAM      | 1       | 0         | 16.79                   | 16.73       | 16.88       | 17.50         |
|           |            | 1       | 25        | 16.56                   | 16.59       | 16.46       | 17.50         |
|           |            | 1       | 49        | 16.76                   | 16.73       | 16.85       | 17.50         |
|           |            | 25      | 0         | 16.73                   | 16.61       | 16.69       | 17.50         |
|           |            | 25      | 13        | 16.69                   | 16.67       | 16.73       | 17.50         |
|           |            | 25      | 25        | 16.72                   | 16.76       | 16.69       | 17.50         |



|  |       |    |    |       |       |       |       |
|--|-------|----|----|-------|-------|-------|-------|
|  | 64QAM | 50 | 0  | 16.69 | 16.72 | 16.70 | 17.50 |
|  |       | 1  | 0  | 16.66 | 16.86 | 16.88 | 17.50 |
|  |       | 1  | 25 | 16.74 | 16.37 | 16.80 | 17.50 |
|  |       | 1  | 49 | 16.87 | 16.86 | 16.97 | 17.50 |
|  |       | 25 | 0  | 16.62 | 16.66 | 16.64 | 17.50 |
|  |       | 25 | 13 | 16.77 | 16.86 | 16.75 | 17.50 |
|  |       | 25 | 25 | 16.70 | 16.75 | 16.72 | 17.50 |
|  |       | 50 | 0  | 16.65 | 16.74 | 16.60 | 17.50 |

| LTE FDD Band 5<br>(REC On+Right Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |             |             |               |
|------------------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
| Bandwidth                                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                                |            |         |           | 20407/824.7             | 20525/836.5 | 20643/848.3 |               |
| 1.4MHz                                         | QPSK       | 1       | 0         | 16.34                   | 16.32       | 16.29       | 17.00         |
|                                                |            | 1       | 2         | 16.23                   | 16.19       | 16.30       | 17.00         |
|                                                |            | 1       | 5         | 16.18                   | 16.20       | 16.40       | 17.00         |
|                                                |            | 3       | 0         | 16.19                   | 16.32       | 16.27       | 17.00         |
|                                                |            | 3       | 2         | 16.31                   | 16.31       | 16.33       | 17.00         |
|                                                |            | 3       | 3         | 16.28                   | 16.25       | 16.30       | 17.00         |
|                                                |            | 6       | 0         | 16.16                   | 16.33       | 16.33       | 17.00         |
|                                                | 16QAM      | 1       | 0         | 16.22                   | 15.89       | 16.07       | 17.00         |
|                                                |            | 1       | 2         | 15.96                   | 15.97       | 15.99       | 17.00         |
|                                                |            | 1       | 5         | 16.18                   | 16.19       | 16.01       | 17.00         |
|                                                |            | 3       | 0         | 16.24                   | 16.19       | 16.29       | 17.00         |
|                                                |            | 3       | 2         | 16.22                   | 16.22       | 16.27       | 17.00         |
|                                                |            | 3       | 3         | 16.13                   | 16.20       | 16.22       | 17.00         |
|                                                |            | 6       | 0         | 16.29                   | 16.29       | 16.31       | 17.00         |
|                                                | 64QAM      | 1       | 0         | 16.03                   | 16.02       | 16.04       | 17.00         |
|                                                |            | 1       | 2         | 15.90                   | 15.89       | 16.29       | 17.00         |
|                                                |            | 1       | 5         | 16.23                   | 16.14       | 16.29       | 17.00         |
|                                                |            | 3       | 0         | 16.26                   | 16.21       | 16.31       | 17.00         |
|                                                |            | 3       | 2         | 16.19                   | 16.29       | 16.27       | 17.00         |
|                                                |            | 3       | 3         | 16.20                   | 16.23       | 16.25       | 17.00         |
|                                                |            | 6       | 0         | 16.22                   | 16.17       | 16.22       | 17.00         |
| Bandwidth                                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                                |            |         |           | 20415/825.5             | 20525/836.5 | 20635/847.5 |               |
| 3MHz                                           | QPSK       | 1       | 0         | 16.36                   | 16.33       | 16.32       | 17.00         |
|                                                |            | 1       | 7         | 16.26                   | 16.24       | 16.34       | 17.00         |
|                                                |            | 1       | 14        | 16.20                   | 16.24       | 16.43       | 17.00         |
|                                                |            | 8       | 0         | 16.22                   | 16.37       | 16.31       | 17.00         |
|                                                |            | 8       | 4         | 16.34                   | 16.36       | 16.37       | 17.00         |
|                                                |            | 8       | 7         | 16.30                   | 16.29       | 16.35       | 17.00         |
|                                                |            | 15      | 0         | 16.24                   | 16.35       | 16.37       | 17.00         |



|           | 16QAM      | 1       | 0         | 16.24                   | 15.92       | 16.09       | 17.00         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 1       | 7         | 15.99                   | 16.01       | 16.02       | 17.00         |
|           |            | 1       | 14        | 16.21                   | 16.21       | 16.04       | 17.00         |
|           |            | 8       | 0         | 16.27                   | 16.24       | 16.33       | 17.00         |
|           |            | 8       | 4         | 16.24                   | 16.26       | 16.30       | 17.00         |
|           |            | 8       | 7         | 16.16                   | 16.25       | 16.26       | 17.00         |
|           |            | 15      | 0         | 16.32                   | 16.34       | 16.35       | 17.00         |
|           | 64QAM      | 1       | 0         | 16.05                   | 16.05       | 16.06       | 17.00         |
|           |            | 1       | 7         | 15.93                   | 15.93       | 16.32       | 17.00         |
|           |            | 1       | 14        | 16.26                   | 16.16       | 16.32       | 17.00         |
|           |            | 8       | 0         | 16.29                   | 16.26       | 16.35       | 17.00         |
|           |            | 8       | 4         | 16.21                   | 16.33       | 16.30       | 17.00         |
|           |            | 8       | 7         | 16.23                   | 16.28       | 16.29       | 17.00         |
|           |            | 15      | 0         | 16.25                   | 16.22       | 16.26       | 17.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20425/826.5             | 20525/836.5 | 20625/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 16.35                   | 16.29       | 16.30       | 17.00         |
|           |            | 1       | 13        | 16.24                   | 16.23       | 16.31       | 17.00         |
|           |            | 1       | 24        | 16.17                   | 16.19       | 16.39       | 17.00         |
|           |            | 12      | 0         | 16.20                   | 16.33       | 16.28       | 17.00         |
|           |            | 12      | 6         | 16.31                   | 16.31       | 16.33       | 17.00         |
|           |            | 12      | 13        | 16.27                   | 16.26       | 16.31       | 17.00         |
|           |            | 25      | 0         | 16.22                   | 16.31       | 16.32       | 17.00         |
|           | 16QAM      | 1       | 0         | 16.19                   | 15.90       | 16.07       | 17.00         |
|           |            | 1       | 13        | 15.97                   | 15.98       | 16.00       | 17.00         |
|           |            | 1       | 24        | 16.18                   | 16.17       | 16.01       | 17.00         |
|           |            | 12      | 0         | 16.24                   | 16.22       | 16.30       | 17.00         |
|           |            | 12      | 6         | 16.21                   | 16.21       | 16.26       | 17.00         |
|           |            | 12      | 13        | 16.14                   | 16.21       | 16.23       | 17.00         |
|           |            | 25      | 0         | 16.29                   | 16.29       | 16.31       | 17.00         |
|           | 64QAM      | 1       | 0         | 16.00                   | 16.03       | 16.04       | 17.00         |
|           |            | 1       | 13        | 15.91                   | 15.90       | 16.30       | 17.00         |
|           |            | 1       | 24        | 16.23                   | 16.12       | 16.29       | 17.00         |
|           |            | 12      | 0         | 16.26                   | 16.24       | 16.32       | 17.00         |
|           |            | 12      | 6         | 16.18                   | 16.28       | 16.26       | 17.00         |
|           |            | 12      | 13        | 16.21                   | 16.24       | 16.26       | 17.00         |
|           |            | 25      | 0         | 16.22                   | 16.17       | 16.22       | 17.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20450/829               | 20525/836.5 | 20600/844   |               |
| 10MHz     | QPSK       | 1       | 0         | 16.32                   | 16.25       | 16.27       | 17.00         |
|           |            | 1       | 25        | 16.23                   | 16.19       | 16.29       | 17.00         |
|           |            | 1       | 49        | 16.15                   | 16.18       | 16.36       | 17.00         |
|           |            | 25      | 0         | 16.17                   | 16.28       | 16.24       | 17.00         |



|  |       |    |    |       |       |       |       |
|--|-------|----|----|-------|-------|-------|-------|
|  |       | 25 | 13 | 16.29 | 16.27 | 16.30 | 17.00 |
|  |       | 25 | 25 | 16.24 | 16.21 | 16.27 | 17.00 |
|  |       | 50 | 0  | 16.19 | 16.26 | 16.28 | 17.00 |
|  | 16QAM | 1  | 0  | 16.17 | 15.86 | 16.02 | 17.00 |
|  |       | 1  | 25 | 15.93 | 15.96 | 15.96 | 17.00 |
|  |       | 1  | 49 | 16.16 | 16.14 | 15.99 | 17.00 |
|  |       | 25 | 0  | 16.21 | 16.18 | 16.27 | 17.00 |
|  |       | 25 | 13 | 16.18 | 16.19 | 16.23 | 17.00 |
|  |       | 25 | 25 | 16.11 | 16.16 | 16.19 | 17.00 |
|  |       | 50 | 0  | 16.27 | 16.25 | 16.28 | 17.00 |
|  | 64QAM | 1  | 0  | 15.98 | 15.99 | 15.99 | 17.00 |
|  |       | 1  | 25 | 15.87 | 15.88 | 16.26 | 17.00 |
|  |       | 1  | 49 | 16.21 | 16.09 | 16.27 | 17.00 |
|  |       | 25 | 0  | 16.23 | 16.20 | 16.29 | 17.00 |
|  |       | 25 | 13 | 16.15 | 16.26 | 16.23 | 17.00 |
|  |       | 25 | 25 | 16.18 | 16.19 | 16.22 | 17.00 |
|  |       | 50 | 0  | 16.20 | 16.13 | 16.19 | 17.00 |

| LTE FDD Band 5<br>(REC Off) |            |         |           | Conducted Power(dBm)    |             |             |                  |
|-----------------------------|------------|---------|-----------|-------------------------|-------------|-------------|------------------|
| Bandwidth                   | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                             |            |         |           | 20407/824.7             | 20525/836.5 | 20643/848.3 |                  |
| 1.4MHz                      | QPSK       | 1       | 0         | 22.75                   | 22.80       | 22.85       | 23.50            |
|                             |            | 1       | 2         | 22.63                   | 22.73       | 22.75       | 23.50            |
|                             |            | 1       | 5         | 22.76                   | 22.74       | 22.96       | 23.50            |
|                             |            | 3       | 0         | 22.82                   | 22.85       | 22.76       | 23.50            |
|                             |            | 3       | 2         | 22.74                   | 22.77       | 22.87       | 23.50            |
|                             |            | 3       | 3         | 22.69                   | 22.82       | 22.64       | 23.50            |
|                             |            | 6       | 0         | 21.71                   | 21.89       | 21.96       | 22.50            |
|                             | 16QAM      | 1       | 0         | 22.00                   | 22.05       | 22.01       | 22.50            |
|                             |            | 1       | 2         | 22.02                   | 21.86       | 21.99       | 22.50            |
|                             |            | 1       | 5         | 21.89                   | 21.90       | 21.99       | 22.50            |
|                             |            | 3       | 0         | 21.68                   | 21.63       | 21.68       | 22.50            |
|                             |            | 3       | 2         | 21.59                   | 21.67       | 21.73       | 22.50            |
|                             |            | 3       | 3         | 21.71                   | 21.67       | 21.72       | 22.50            |
|                             |            | 6       | 0         | 20.76                   | 20.75       | 20.79       | 21.50            |
|                             | 64QAM      | 1       | 0         | 21.74                   | 21.65       | 21.82       | 22.00            |
|                             |            | 1       | 2         | 21.51                   | 21.50       | 21.65       | 22.00            |
|                             |            | 1       | 5         | 21.56                   | 21.54       | 21.59       | 22.00            |
|                             |            | 3       | 0         | 21.66                   | 21.58       | 21.73       | 22.00            |
|                             |            | 3       | 2         | 21.62                   | 21.62       | 21.73       | 22.00            |
|                             |            | 3       | 3         | 21.63                   | 21.72       | 21.72       | 22.00            |
|                             |            | 6       | 0         | 20.75                   | 20.86       | 20.91       | 21.00            |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            |         |           | 20415/825.5             | 20525/836.5 | 20635/847.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 22.76                   | 22.83       | 22.87       | 23.50         |
|           |            | 1       | 7         | 22.67                   | 22.79       | 22.80       | 23.50         |
|           |            | 1       | 14        | 22.78                   | 22.78       | 22.99       | 23.50         |
|           |            | 8       | 0         | 21.92                   | 21.97       | 21.89       | 22.50         |
|           |            | 8       | 4         | 21.87                   | 21.88       | 21.98       | 22.50         |
|           |            | 8       | 7         | 21.79                   | 21.95       | 21.75       | 22.50         |
|           |            | 15      | 0         | 21.80                   | 21.94       | 22.01       | 22.50         |
|           | 16QAM      | 1       | 0         | 22.02                   | 22.06       | 22.03       | 22.50         |
|           |            | 1       | 7         | 22.05                   | 21.93       | 22.03       | 22.50         |
|           |            | 1       | 14        | 21.91                   | 21.94       | 22.01       | 22.50         |
|           |            | 8       | 0         | 20.80                   | 20.77       | 20.81       | 21.50         |
|           |            | 8       | 4         | 20.69                   | 20.79       | 20.84       | 21.50         |
|           |            | 8       | 7         | 20.81                   | 20.79       | 20.85       | 21.50         |
|           |            | 15      | 0         | 20.80                   | 20.80       | 20.81       | 21.50         |
|           | 64QAM      | 1       | 0         | 21.76                   | 21.66       | 21.84       | 22.00         |
|           |            | 1       | 7         | 21.54                   | 21.57       | 21.69       | 22.00         |
|           |            | 1       | 14        | 21.58                   | 21.58       | 21.61       | 22.00         |
|           |            | 8       | 0         | 20.78                   | 20.72       | 20.86       | 21.00         |
|           |            | 8       | 4         | 20.72                   | 20.74       | 20.84       | 21.00         |
|           |            | 8       | 7         | 20.73                   | 20.84       | 20.85       | 21.00         |
|           |            | 15      | 0         | 20.79                   | 20.91       | 20.93       | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20425/826.5             | 20525/836.5 | 20625/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 22.75                   | 22.79       | 22.85       | 23.50         |
|           |            | 1       | 13        | 22.65                   | 22.78       | 22.77       | 23.50         |
|           |            | 1       | 24        | 22.75                   | 22.73       | 22.95       | 23.50         |
|           |            | 12      | 0         | 21.90                   | 21.93       | 21.86       | 22.50         |
|           |            | 12      | 6         | 21.84                   | 21.83       | 21.94       | 22.50         |
|           |            | 12      | 13        | 21.76                   | 21.92       | 21.71       | 22.50         |
|           |            | 25      | 0         | 21.78                   | 21.90       | 21.96       | 22.50         |
|           | 16QAM      | 1       | 0         | 21.97                   | 22.04       | 22.01       | 22.50         |
|           |            | 1       | 13        | 22.03                   | 21.90       | 22.01       | 22.50         |
|           |            | 1       | 24        | 21.88                   | 21.90       | 21.98       | 22.50         |
|           |            | 12      | 0         | 20.77                   | 20.75       | 20.78       | 21.50         |
|           |            | 12      | 6         | 20.66                   | 20.74       | 20.80       | 21.50         |
|           |            | 12      | 13        | 20.79                   | 20.75       | 20.82       | 21.50         |
|           |            | 25      | 0         | 20.77                   | 20.75       | 20.77       | 21.50         |
|           | 64QAM      | 1       | 0         | 21.71                   | 21.64       | 21.82       | 22.00         |
|           |            | 1       | 13        | 21.52                   | 21.54       | 21.67       | 22.00         |
|           |            | 1       | 24        | 21.55                   | 21.54       | 21.58       | 22.00         |
|           |            | 12      | 0         | 20.75                   | 20.70       | 20.83       | 21.00         |



|           |            | 12      | 6         | 20.69                   | 20.69       | 20.80     | 21.00         |
|-----------|------------|---------|-----------|-------------------------|-------------|-----------|---------------|
|           |            | 12      | 13        | 20.71                   | 20.80       | 20.82     | 21.00         |
|           |            | 25      | 0         | 20.76                   | 20.86       | 20.89     | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |           | Tune-up Limit |
|           |            |         |           | 20450/829               | 20525/836.5 | 20600/844 |               |
| 10MHz     | QPSK       | 1       | 0         | 22.72                   | 22.75       | 22.82     | 23.50         |
|           |            | 1       | 25        | 22.64                   | 22.74       | 22.75     | 23.50         |
|           |            | 1       | 49        | 22.73                   | 22.72       | 22.92     | 23.50         |
|           |            | 25      | 0         | 21.87                   | 21.88       | 21.82     | 22.50         |
|           |            | 25      | 13        | 21.82                   | 21.79       | 21.91     | 22.50         |
|           |            | 25      | 25        | 21.73                   | 21.87       | 21.67     | 22.50         |
|           |            | 50      | 0         | 21.75                   | 21.85       | 21.92     | 22.50         |
|           | 16QAM      | 1       | 0         | 21.95                   | 22.00       | 21.96     | 22.50         |
|           |            | 1       | 25        | 21.99                   | 21.88       | 21.97     | 22.50         |
|           |            | 1       | 49        | 21.86                   | 21.87       | 21.96     | 22.50         |
|           |            | 25      | 0         | 20.74                   | 20.71       | 20.75     | 21.50         |
|           |            | 25      | 13        | 20.63                   | 20.72       | 20.77     | 21.50         |
|           |            | 25      | 25        | 20.76                   | 20.70       | 20.78     | 21.50         |
|           |            | 50      | 0         | 20.75                   | 20.71       | 20.74     | 21.50         |
|           | 64QAM      | 1       | 0         | 21.69                   | 21.60       | 21.77     | 22.00         |
|           |            | 1       | 25        | 21.48                   | 21.52       | 21.63     | 22.00         |
|           |            | 1       | 49        | 21.53                   | 21.51       | 21.56     | 22.00         |
|           |            | 25      | 0         | 20.72                   | 20.66       | 20.80     | 21.00         |
|           |            | 25      | 13        | 20.66                   | 20.67       | 20.77     | 21.00         |
|           |            | 25      | 25        | 20.68                   | 20.75       | 20.78     | 21.00         |
|           |            | 50      | 0         | 20.74                   | 20.82       | 20.86     | 21.00         |

| LTE FDD Band 5<br>(REC Off+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |             |             |               |
|--------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
| Bandwidth                            | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                      |            |         |           | 20407/824.7             | 20525/836.5 | 20643/848.3 |               |
| 1.4MHz                               | QPSK       | 1       | 0         | 19.86                   | 19.81       | 19.86       | 20.50         |
|                                      |            | 1       | 2         | 19.75                   | 19.69       | 19.70       | 20.50         |
|                                      |            | 1       | 5         | 19.72                   | 19.72       | 19.91       | 20.50         |
|                                      |            | 3       | 0         | 19.86                   | 19.82       | 19.80       | 20.50         |
|                                      |            | 3       | 2         | 19.78                   | 19.81       | 19.89       | 20.50         |
|                                      |            | 3       | 3         | 19.87                   | 19.79       | 19.81       | 20.50         |
|                                      |            | 6       | 0         | 19.67                   | 19.84       | 19.90       | 20.50         |
|                                      | 16QAM      | 1       | 0         | 19.93                   | 19.85       | 20.02       | 20.50         |
|                                      |            | 1       | 2         | 19.84                   | 19.85       | 19.74       | 20.50         |
|                                      |            | 1       | 5         | 19.84                   | 19.84       | 19.96       | 20.50         |
|                                      |            | 3       | 0         | 19.80                   | 19.66       | 19.75       | 20.50         |
|                                      |            | 3       | 2         | 19.77                   | 19.74       | 19.81       | 20.50         |



|           |            | 3       | 3         | 19.74                   | 19.80       | 19.72       | 20.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 6       | 0         | 19.79                   | 19.84       | 19.81       | 20.50         |
|           | 64QAM      | 1       | 0         | 19.68                   | 19.86       | 19.90       | 20.50         |
|           |            | 1       | 2         | 19.94                   | 19.55       | 20.00       | 20.50         |
|           |            | 1       | 5         | 19.63                   | 19.65       | 19.93       | 20.50         |
|           |            | 3       | 0         | 19.72                   | 19.74       | 19.73       | 20.50         |
|           |            | 3       | 2         | 19.74                   | 19.82       | 19.72       | 20.50         |
|           |            | 3       | 3         | 19.75                   | 19.82       | 19.78       | 20.50         |
|           |            | 6       | 0         | 19.76                   | 19.87       | 19.72       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20415/825.5             | 20525/836.5 | 20635/847.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 19.88                   | 19.82       | 19.89       | 20.50         |
|           |            | 1       | 7         | 19.78                   | 19.74       | 19.74       | 20.50         |
|           |            | 1       | 14        | 19.74                   | 19.76       | 19.94       | 20.50         |
|           |            | 8       | 0         | 19.89                   | 19.87       | 19.84       | 20.50         |
|           |            | 8       | 4         | 19.81                   | 19.86       | 19.93       | 20.50         |
|           |            | 8       | 7         | 19.89                   | 19.83       | 19.86       | 20.50         |
|           |            | 15      | 0         | 19.75                   | 19.86       | 19.94       | 20.50         |
|           | 16QAM      | 1       | 0         | 19.95                   | 19.88       | 20.04       | 20.50         |
|           |            | 1       | 7         | 19.87                   | 19.89       | 19.77       | 20.50         |
|           |            | 1       | 14        | 19.87                   | 19.86       | 19.99       | 20.50         |
|           |            | 8       | 0         | 19.83                   | 19.71       | 19.79       | 20.50         |
|           |            | 8       | 4         | 19.79                   | 19.78       | 19.84       | 20.50         |
|           |            | 8       | 7         | 19.77                   | 19.85       | 19.76       | 20.50         |
|           |            | 15      | 0         | 19.82                   | 19.89       | 19.85       | 20.50         |
|           | 64QAM      | 1       | 0         | 19.70                   | 19.89       | 19.92       | 20.50         |
|           |            | 1       | 7         | 19.97                   | 19.59       | 20.03       | 20.50         |
|           |            | 1       | 14        | 19.66                   | 19.67       | 19.96       | 20.50         |
|           |            | 8       | 0         | 19.75                   | 19.79       | 19.77       | 20.50         |
|           |            | 8       | 4         | 19.76                   | 19.86       | 19.75       | 20.50         |
|           |            | 8       | 7         | 19.78                   | 19.87       | 19.82       | 20.50         |
|           |            | 15      | 0         | 19.79                   | 19.92       | 19.76       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 20425/826.5             | 20525/836.5 | 20625/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 19.87                   | 19.78       | 19.87       | 20.50         |
|           |            | 1       | 13        | 19.76                   | 19.73       | 19.71       | 20.50         |
|           |            | 1       | 24        | 19.71                   | 19.71       | 19.90       | 20.50         |
|           |            | 12      | 0         | 19.87                   | 19.83       | 19.81       | 20.50         |
|           |            | 12      | 6         | 19.78                   | 19.81       | 19.89       | 20.50         |
|           |            | 12      | 13        | 19.86                   | 19.80       | 19.82       | 20.50         |
|           |            | 25      | 0         | 19.73                   | 19.82       | 19.89       | 20.50         |
|           | 16QAM      | 1       | 0         | 19.90                   | 19.86       | 20.02       | 20.50         |
|           |            | 1       | 13        | 19.85                   | 19.86       | 19.75       | 20.50         |



|           |            | 1       | 24        | 19.84                   | 19.82       | 19.96     | 20.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-----------|---------------|
|           |            | 12      | 0         | 19.80                   | 19.69       | 19.76     | 20.50         |
|           |            | 12      | 6         | 19.76                   | 19.73       | 19.80     | 20.50         |
|           |            | 12      | 13        | 19.75                   | 19.81       | 19.73     | 20.50         |
|           |            | 25      | 0         | 19.79                   | 19.84       | 19.81     | 20.50         |
|           | 64QAM      | 1       | 0         | 19.65                   | 19.87       | 19.90     | 20.50         |
|           |            | 1       | 13        | 19.95                   | 19.56       | 20.01     | 20.50         |
|           |            | 1       | 24        | 19.63                   | 19.63       | 19.93     | 20.50         |
|           |            | 12      | 0         | 19.72                   | 19.77       | 19.74     | 20.50         |
|           |            | 12      | 6         | 19.73                   | 19.81       | 19.71     | 20.50         |
|           |            | 12      | 13        | 19.76                   | 19.83       | 19.79     | 20.50         |
|           |            | 25      | 0         | 19.76                   | 19.87       | 19.72     | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |           | Tune-up Limit |
|           |            |         |           | 20450/829               | 20525/836.5 | 20600/844 |               |
| 10MHz     | QPSK       | 1       | 0         | 19.84                   | 19.74       | 19.84     | 20.50         |
|           |            | 1       | 25        | 19.75                   | 19.69       | 19.69     | 20.50         |
|           |            | 1       | 49        | 19.69                   | 19.70       | 19.87     | 20.50         |
|           |            | 25      | 0         | 19.84                   | 19.78       | 19.77     | 20.50         |
|           |            | 25      | 13        | 19.76                   | 19.77       | 19.86     | 20.50         |
|           |            | 25      | 25        | 19.83                   | 19.75       | 19.78     | 20.50         |
|           |            | 50      | 0         | 19.70                   | 19.77       | 19.85     | 20.50         |
|           | 16QAM      | 1       | 0         | 19.88                   | 19.82       | 19.97     | 20.50         |
|           |            | 1       | 25        | 19.81                   | 19.84       | 19.71     | 20.50         |
|           |            | 1       | 49        | 19.82                   | 19.79       | 19.94     | 20.50         |
|           |            | 25      | 0         | 19.77                   | 19.65       | 19.73     | 20.50         |
|           |            | 25      | 13        | 19.73                   | 19.71       | 19.77     | 20.50         |
|           |            | 25      | 25        | 19.72                   | 19.76       | 19.69     | 20.50         |
|           |            | 50      | 0         | 19.77                   | 19.80       | 19.78     | 20.50         |
|           | 64QAM      | 1       | 0         | 19.63                   | 19.83       | 19.85     | 20.50         |
|           |            | 1       | 25        | 19.91                   | 19.54       | 19.97     | 20.50         |
|           |            | 1       | 49        | 19.61                   | 19.60       | 19.91     | 20.50         |
|           |            | 25      | 0         | 19.69                   | 19.73       | 19.71     | 20.50         |
|           |            | 25      | 13        | 19.70                   | 19.79       | 19.68     | 20.50         |
|           |            | 25      | 25        | 19.73                   | 19.78       | 19.75     | 20.50         |
|           |            | 50      | 0         | 19.74                   | 19.83       | 19.69     | 20.50         |

| LTE FDD Band 7<br>(REC On+Left Head) |            |         |           | Conducted Power(dBm)    |            |              |               |
|--------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                            | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                      |            |         |           | 20775/2502.5            | 21100/2535 | 21425/2567.5 |               |
| 5MHz                                 | QPSK       | 1       | 0         | 20.48                   | 20.49      | 20.42        | 21.00         |
|                                      |            | 1       | 13        | 20.49                   | 20.43      | 20.50        | 21.00         |
|                                      |            | 1       | 24        | 20.51                   | 20.41      | 20.41        | 21.00         |





|           |            | 12      | 0         | 20.44                   | 20.44      | 20.28      | 21.00         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 12      | 6         | 20.48                   | 20.53      | 20.34      | 21.00         |
|           |            | 12      | 13        | 20.54                   | 20.34      | 20.31      | 21.00         |
|           |            | 25      | 0         | 20.44                   | 20.40      | 20.43      | 21.00         |
|           | 16QAM      | 1       | 0         | 20.40                   | 20.37      | 20.41      | 21.00         |
|           |            | 1       | 13        | 20.43                   | 20.34      | 20.47      | 21.00         |
|           |            | 1       | 24        | 20.36                   | 20.46      | 20.48      | 21.00         |
|           |            | 12      | 0         | 20.38                   | 20.36      | 20.29      | 21.00         |
|           |            | 12      | 6         | 20.47                   | 20.32      | 20.33      | 21.00         |
|           |            | 12      | 13        | 20.34                   | 20.32      | 20.19      | 21.00         |
|           |            | 25      | 0         | 20.31                   | 20.29      | 20.29      | 21.00         |
|           | 64QAM      | 1       | 0         | 20.53                   | 20.39      | 20.36      | 21.00         |
|           |            | 1       | 13        | 20.40                   | 20.23      | 20.51      | 21.00         |
|           |            | 1       | 24        | 20.40                   | 20.48      | 20.44      | 21.00         |
|           |            | 12      | 0         | 20.39                   | 20.36      | 20.31      | 21.00         |
|           |            | 12      | 6         | 20.37                   | 20.30      | 20.34      | 21.00         |
|           |            | 12      | 13        | 20.37                   | 20.26      | 20.29      | 21.00         |
|           |            | 25      | 0         | 20.44                   | 20.45      | 20.40      | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 20800/2505              | 21100/2535 | 21400/2565 |               |
| 10MHz     | QPSK       | 1       | 0         | 20.50                   | 20.50      | 20.45      | 21.00         |
|           |            | 1       | 25        | 20.52                   | 20.48      | 20.54      | 21.00         |
|           |            | 1       | 49        | 20.53                   | 20.45      | 20.44      | 21.00         |
|           |            | 25      | 0         | 20.47                   | 20.49      | 20.32      | 21.00         |
|           |            | 25      | 13        | 20.51                   | 20.58      | 20.38      | 21.00         |
|           |            | 25      | 25        | 20.56                   | 20.38      | 20.36      | 21.00         |
|           |            | 50      | 0         | 20.52                   | 20.42      | 20.47      | 21.00         |
|           | 16QAM      | 1       | 0         | 20.42                   | 20.40      | 20.43      | 21.00         |
|           |            | 1       | 25        | 20.46                   | 20.38      | 20.50      | 21.00         |
|           |            | 1       | 49        | 20.39                   | 20.48      | 20.51      | 21.00         |
|           |            | 25      | 0         | 20.41                   | 20.41      | 20.33      | 21.00         |
|           |            | 25      | 13        | 20.49                   | 20.36      | 20.36      | 21.00         |
|           |            | 25      | 25        | 20.37                   | 20.37      | 20.23      | 21.00         |
|           |            | 50      | 0         | 20.34                   | 20.34      | 20.33      | 21.00         |
|           | 64QAM      | 1       | 0         | 20.55                   | 20.42      | 20.38      | 21.00         |
|           |            | 1       | 25        | 20.43                   | 20.27      | 20.54      | 21.00         |
|           |            | 1       | 49        | 20.43                   | 20.50      | 20.47      | 21.00         |
|           |            | 25      | 0         | 20.42                   | 20.41      | 20.35      | 21.00         |
|           |            | 25      | 13        | 20.39                   | 20.34      | 20.37      | 21.00         |
|           |            | 25      | 25        | 20.40                   | 20.31      | 20.33      | 21.00         |
|           |            | 50      | 0         | 20.47                   | 20.50      | 20.44      | 21.00         |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            |         |           | 20825/2507.5            | 21100/2535 | 21375/2562.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 20.49                   | 20.46      | 20.43        | 21.00         |
|           |            | 1       | 38        | 20.50                   | 20.47      | 20.51        | 21.00         |
|           |            | 1       | 74        | 20.50                   | 20.40      | 20.40        | 21.00         |
|           |            | 36      | 0         | 20.45                   | 20.45      | 20.29        | 21.00         |
|           |            | 36      | 18        | 20.48                   | 20.53      | 20.34        | 21.00         |
|           |            | 36      | 39        | 20.53                   | 20.35      | 20.32        | 21.00         |
|           |            | 75      | 0         | 20.50                   | 20.38      | 20.42        | 21.00         |
|           | 16QAM      | 1       | 0         | 20.37                   | 20.38      | 20.41        | 21.00         |
|           |            | 1       | 38        | 20.44                   | 20.35      | 20.48        | 21.00         |
|           |            | 1       | 74        | 20.36                   | 20.44      | 20.48        | 21.00         |
|           |            | 36      | 0         | 20.38                   | 20.39      | 20.30        | 21.00         |
|           |            | 36      | 18        | 20.46                   | 20.31      | 20.32        | 21.00         |
|           |            | 36      | 39        | 20.35                   | 20.33      | 20.20        | 21.00         |
|           |            | 75      | 0         | 20.31                   | 20.29      | 20.29        | 21.00         |
|           | 64QAM      | 1       | 0         | 20.50                   | 20.40      | 20.36        | 21.00         |
|           |            | 1       | 38        | 20.41                   | 20.24      | 20.52        | 21.00         |
|           |            | 1       | 74        | 20.40                   | 20.46      | 20.44        | 21.00         |
|           |            | 36      | 0         | 20.39                   | 20.39      | 20.32        | 21.00         |
|           |            | 36      | 18        | 20.36                   | 20.29      | 20.33        | 21.00         |
|           |            | 36      | 39        | 20.38                   | 20.27      | 20.30        | 21.00         |
|           |            | 75      | 0         | 20.44                   | 20.45      | 20.40        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20850/2510              | 21100/2535 | 21350/2560   |               |
| 20MHz     | QPSK       | 1       | 0         | 20.46                   | 20.42      | 20.40        | 21.00         |
|           |            | 1       | 50        | 20.49                   | 20.43      | 20.49        | 21.00         |
|           |            | 1       | 99        | 20.48                   | 20.39      | 20.37        | 21.00         |
|           |            | 50      | 0         | 20.42                   | 20.40      | 20.25        | 21.00         |
|           |            | 50      | 25        | 20.46                   | 20.49      | 20.31        | 21.00         |
|           |            | 50      | 50        | 20.50                   | 20.30      | 20.28        | 21.00         |
|           |            | 100     | 0         | 20.47                   | 20.33      | 20.38        | 21.00         |
|           | 16QAM      | 1       | 0         | 20.35                   | 20.34      | 20.36        | 21.00         |
|           |            | 1       | 50        | 20.40                   | 20.33      | 20.44        | 21.00         |
|           |            | 1       | 99        | 20.34                   | 20.41      | 20.46        | 21.00         |
|           |            | 50      | 0         | 20.35                   | 20.35      | 20.27        | 21.00         |
|           |            | 50      | 25        | 20.43                   | 20.29      | 20.29        | 21.00         |
|           |            | 50      | 50        | 20.32                   | 20.28      | 20.16        | 21.00         |
|           |            | 100     | 0         | 20.29                   | 20.25      | 20.26        | 21.00         |
|           | 64QAM      | 1       | 0         | 20.48                   | 20.36      | 20.31        | 21.00         |
|           |            | 1       | 50        | 20.37                   | 20.22      | 20.48        | 21.00         |
|           |            | 1       | 99        | 20.38                   | 20.43      | 20.42        | 21.00         |
|           |            | 50      | 0         | 20.36                   | 20.35      | 20.29        | 21.00         |



|  |  |     |    |       |       |       |       |
|--|--|-----|----|-------|-------|-------|-------|
|  |  | 50  | 25 | 20.33 | 20.27 | 20.30 | 21.00 |
|  |  | 50  | 50 | 20.35 | 20.22 | 20.26 | 21.00 |
|  |  | 100 | 0  | 20.42 | 20.41 | 20.37 | 21.00 |

| LTE FDD Band 7<br>(REC On+Right Head) |            |         |           | Conducted Power(dBm)    |            |              |               |
|---------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                       |            |         |           | 20775/2502.5            | 21100/2535 | 21425/2567.5 |               |
| 5MHz                                  | QPSK       | 1       | 0         | 14.48                   | 15.10      | 15.35        | 16.00         |
|                                       |            | 1       | 13        | 14.98                   | 14.76      | 15.36        | 16.00         |
|                                       |            | 1       | 24        | 15.17                   | 15.11      | 15.05        | 16.00         |
|                                       |            | 12      | 0         | 14.89                   | 15.16      | 15.48        | 16.00         |
|                                       |            | 12      | 6         | 14.99                   | 14.93      | 15.34        | 16.00         |
|                                       |            | 12      | 13        | 15.50                   | 15.01      | 15.12        | 16.00         |
|                                       |            | 25      | 0         | 14.99                   | 14.99      | 15.41        | 16.00         |
|                                       | 16QAM      | 1       | 0         | 15.09                   | 15.12      | 15.46        | 16.00         |
|                                       |            | 1       | 13        | 15.25                   | 15.04      | 15.49        | 16.00         |
|                                       |            | 1       | 24        | 15.42                   | 15.23      | 15.33        | 16.00         |
|                                       |            | 12      | 0         | 14.90                   | 15.09      | 15.45        | 16.00         |
|                                       |            | 12      | 6         | 14.96                   | 14.92      | 15.23        | 16.00         |
|                                       |            | 12      | 13        | 15.08                   | 14.99      | 14.96        | 16.00         |
|                                       |            | 25      | 0         | 14.97                   | 14.92      | 15.22        | 16.00         |
|                                       | 64QAM      | 1       | 0         | 14.83                   | 15.00      | 15.43        | 16.00         |
|                                       |            | 1       | 13        | 14.99                   | 14.94      | 15.28        | 16.00         |
|                                       |            | 1       | 24        | 15.05                   | 15.13      | 15.25        | 16.00         |
|                                       |            | 12      | 0         | 14.92                   | 15.03      | 15.35        | 16.00         |
|                                       |            | 12      | 6         | 15.00                   | 14.72      | 15.20        | 16.00         |
|                                       |            | 12      | 13        | 15.09                   | 14.91      | 15.00        | 16.00         |
|                                       |            | 25      | 0         | 15.08                   | 14.93      | 15.24        | 16.00         |
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                       |            |         |           | 20800/2505              | 21100/2535 | 21400/2565   |               |
| 10MHz                                 | QPSK       | 1       | 0         | 15.01                   | 14.81      | 15.40        | 16.00         |
|                                       |            | 1       | 25        | 15.19                   | 15.15      | 15.08        | 16.00         |
|                                       |            | 1       | 49        | 14.92                   | 15.21      | 15.52        | 16.00         |
|                                       |            | 25      | 0         | 15.02                   | 14.98      | 15.38        | 16.00         |
|                                       |            | 25      | 13        | 15.52                   | 15.05      | 15.17        | 16.00         |
|                                       |            | 25      | 25        | 15.07                   | 15.01      | 15.45        | 16.00         |
|                                       |            | 50      | 0         | 15.11                   | 15.15      | 15.48        | 16.00         |
|                                       | 16QAM      | 1       | 0         | 15.28                   | 15.08      | 15.52        | 16.00         |
|                                       |            | 1       | 25        | 15.45                   | 15.25      | 15.36        | 16.00         |
|                                       |            | 1       | 49        | 14.93                   | 15.14      | 15.49        | 16.00         |
|                                       |            | 25      | 0         | 14.98                   | 14.96      | 15.26        | 16.00         |
|                                       |            | 25      | 13        | 15.11                   | 15.04      | 15.00        | 16.00         |



|           |            | 25      | 25        | 15.00                   | 14.97      | 15.26        | 16.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 50      | 0         | 14.85                   | 15.03      | 15.45        | 16.00         |
|           | 64QAM      | 1       | 0         | 15.02                   | 14.98      | 15.31        | 16.00         |
|           |            | 1       | 25        | 15.08                   | 15.15      | 15.28        | 16.00         |
|           |            | 1       | 49        | 14.95                   | 15.08      | 15.39        | 16.00         |
|           |            | 25      | 0         | 15.02                   | 14.76      | 15.23        | 16.00         |
|           |            | 25      | 13        | 15.12                   | 14.96      | 15.04        | 16.00         |
|           |            | 25      | 25        | 15.11                   | 14.98      | 15.28        | 16.00         |
|           |            | 50      | 0         | 15.08                   | 14.93      | 15.24        | 16.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20825/2507.5            | 21100/2535 | 21375/2562.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 14.49                   | 15.07      | 15.36        | 16.00         |
|           |            | 1       | 38        | 14.99                   | 14.80      | 15.37        | 16.00         |
|           |            | 1       | 74        | 15.16                   | 15.10      | 15.04        | 16.00         |
|           |            | 36      | 0         | 14.90                   | 15.17      | 15.49        | 16.00         |
|           |            | 36      | 18        | 14.99                   | 14.93      | 15.34        | 16.00         |
|           |            | 36      | 39        | 15.49                   | 15.02      | 15.13        | 16.00         |
|           |            | 75      | 0         | 15.05                   | 14.97      | 15.40        | 16.00         |
|           | 16QAM      | 1       | 0         | 15.06                   | 15.13      | 15.46        | 16.00         |
|           |            | 1       | 38        | 15.26                   | 15.05      | 15.50        | 16.00         |
|           |            | 1       | 74        | 15.42                   | 15.21      | 15.33        | 16.00         |
|           |            | 36      | 0         | 14.90                   | 15.12      | 15.46        | 16.00         |
|           |            | 36      | 18        | 14.95                   | 14.91      | 15.22        | 16.00         |
|           |            | 36      | 39        | 15.09                   | 15.00      | 14.97        | 16.00         |
|           |            | 75      | 0         | 14.97                   | 14.92      | 15.22        | 16.00         |
|           | 64QAM      | 1       | 0         | 14.80                   | 15.01      | 15.43        | 16.00         |
|           |            | 1       | 38        | 15.00                   | 14.95      | 15.29        | 16.00         |
|           |            | 1       | 74        | 15.05                   | 15.11      | 15.25        | 16.00         |
|           |            | 36      | 0         | 14.92                   | 15.06      | 15.36        | 16.00         |
|           |            | 36      | 18        | 14.99                   | 14.71      | 15.19        | 16.00         |
|           |            | 36      | 39        | 15.10                   | 14.92      | 15.01        | 16.00         |
|           |            | 75      | 0         | 15.08                   | 14.93      | 15.24        | 16.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20850/2510              | 21100/2535 | 21350/2560   |               |
| 20MHz     | QPSK       | 1       | 0         | 14.46                   | 15.03      | 15.33        | 16.00         |
|           |            | 1       | 50        | 14.98                   | 14.76      | 15.35        | 16.00         |
|           |            | 1       | 99        | 15.14                   | 15.09      | 15.01        | 16.00         |
|           |            | 50      | 0         | 14.87                   | 15.12      | 15.45        | 16.00         |
|           |            | 50      | 25        | 14.97                   | 14.89      | 15.31        | 16.00         |
|           |            | 50      | 50        | 15.46                   | 14.97      | 15.09        | 16.00         |
|           |            | 100     | 0         | 15.02                   | 14.92      | 15.36        | 16.00         |
|           | 16QAM      | 1       | 0         | 15.04                   | 15.09      | 15.41        | 16.00         |
|           |            | 1       | 50        | 15.22                   | 15.03      | 15.46        | 16.00         |



|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  |       | 1   | 99 | 15.40 | 15.18 | 15.31 | 16.00 |
|  |       | 50  | 0  | 14.87 | 15.08 | 15.43 | 16.00 |
|  |       | 50  | 25 | 14.92 | 14.89 | 15.19 | 16.00 |
|  |       | 50  | 50 | 15.06 | 14.95 | 14.93 | 16.00 |
|  |       | 100 | 0  | 14.95 | 14.88 | 15.19 | 16.00 |
|  | 64QAM | 1   | 0  | 14.78 | 14.97 | 15.38 | 16.00 |
|  |       | 1   | 50 | 14.96 | 14.93 | 15.25 | 16.00 |
|  |       | 1   | 99 | 15.03 | 15.08 | 15.23 | 16.00 |
|  |       | 50  | 0  | 14.89 | 15.02 | 15.33 | 16.00 |
|  |       | 50  | 25 | 14.96 | 14.69 | 15.16 | 16.00 |
|  |       | 50  | 50 | 15.07 | 14.87 | 14.97 | 16.00 |
|  |       | 100 | 0  | 15.06 | 14.89 | 15.21 | 16.00 |

| LTE FDD Band 7<br>(REC On+Left Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |            |              |               |
|-----------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                     | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                               |            |         |           | 20775/2502.5            | 21100/2535 | 21425/2567.5 |               |
| 5MHz                                          | QPSK       | 1       | 0         | 17.53                   | 17.59      | 17.40        | 18.00         |
|                                               |            | 1       | 13        | 17.46                   | 17.58      | 17.82        | 18.00         |
|                                               |            | 1       | 24        | 17.58                   | 17.52      | 17.50        | 18.00         |
|                                               |            | 12      | 0         | 17.44                   | 17.45      | 17.40        | 18.00         |
|                                               |            | 12      | 6         | 17.43                   | 17.44      | 17.41        | 18.00         |
|                                               |            | 12      | 13        | 17.48                   | 17.42      | 17.44        | 18.00         |
|                                               |            | 25      | 0         | 17.31                   | 17.52      | 17.36        | 18.00         |
|                                               | 16QAM      | 1       | 0         | 17.63                   | 17.42      | 17.59        | 18.00         |
|                                               |            | 1       | 13        | 17.25                   | 17.35      | 17.35        | 18.00         |
|                                               |            | 1       | 24        | 17.57                   | 17.74      | 17.52        | 18.00         |
|                                               |            | 12      | 0         | 17.45                   | 17.40      | 17.35        | 18.00         |
|                                               |            | 12      | 6         | 17.37                   | 17.39      | 17.28        | 18.00         |
|                                               |            | 12      | 13        | 17.46                   | 17.45      | 17.34        | 18.00         |
|                                               |            | 25      | 0         | 17.30                   | 17.42      | 17.26        | 18.00         |
|                                               | 64QAM      | 1       | 0         | 17.58                   | 17.49      | 17.66        | 18.00         |
|                                               |            | 1       | 13        | 17.45                   | 17.42      | 16.94        | 18.00         |
|                                               |            | 1       | 24        | 17.79                   | 17.63      | 16.71        | 18.00         |
|                                               |            | 12      | 0         | 17.46                   | 17.33      | 17.27        | 18.00         |
|                                               |            | 12      | 6         | 17.38                   | 17.36      | 17.18        | 18.00         |
|                                               |            | 12      | 13        | 17.39                   | 17.38      | 17.32        | 18.00         |
|                                               |            | 25      | 0         | 17.40                   | 17.44      | 17.38        | 18.00         |
| Bandwidth                                     | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
| 10MHz                                         | QPSK       | 1       | 0         | 17.55                   | 17.60      | 17.43        | 18.00         |
|                                               |            | 1       | 25        | 17.49                   | 17.63      | 17.86        | 18.00         |
|                                               |            | 1       | 49        | 17.60                   | 17.56      | 17.53        | 18.00         |



|           |            | 25      | 0         | 17.47                   | 17.50      | 17.44        | 18.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 25      | 13        | 17.46                   | 17.49      | 17.45        | 18.00         |
|           |            | 25      | 25        | 17.50                   | 17.46      | 17.49        | 18.00         |
|           |            | 50      | 0         | 17.39                   | 17.54      | 17.40        | 18.00         |
|           | 16QAM      | 1       | 0         | 17.65                   | 17.45      | 17.61        | 18.00         |
|           |            | 1       | 25        | 17.28                   | 17.39      | 17.38        | 18.00         |
|           |            | 1       | 49        | 17.60                   | 17.76      | 17.55        | 18.00         |
|           |            | 25      | 0         | 17.48                   | 17.45      | 17.39        | 18.00         |
|           |            | 25      | 13        | 17.39                   | 17.43      | 17.31        | 18.00         |
|           |            | 25      | 25        | 17.49                   | 17.50      | 17.38        | 18.00         |
|           |            | 50      | 0         | 17.33                   | 17.47      | 17.30        | 18.00         |
|           | 64QAM      | 1       | 0         | 17.60                   | 17.52      | 17.68        | 18.00         |
|           |            | 1       | 25        | 17.48                   | 17.46      | 16.97        | 18.00         |
|           |            | 1       | 49        | 17.82                   | 17.65      | 16.74        | 18.00         |
|           |            | 25      | 0         | 17.49                   | 17.38      | 17.31        | 18.00         |
|           |            | 25      | 13        | 17.40                   | 17.40      | 17.21        | 18.00         |
|           |            | 25      | 25        | 17.42                   | 17.43      | 17.36        | 18.00         |
|           |            | 50      | 0         | 17.43                   | 17.49      | 17.42        | 18.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20825/2507.5            | 21100/2535 | 21375/2562.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 17.54                   | 17.56      | 17.41        | 18.00         |
|           |            | 1       | 38        | 17.47                   | 17.62      | 17.83        | 18.00         |
|           |            | 1       | 74        | 17.57                   | 17.51      | 17.49        | 18.00         |
|           |            | 36      | 0         | 17.45                   | 17.46      | 17.41        | 18.00         |
|           |            | 36      | 18        | 17.43                   | 17.44      | 17.41        | 18.00         |
|           |            | 36      | 39        | 17.47                   | 17.43      | 17.45        | 18.00         |
|           |            | 75      | 0         | 17.37                   | 17.50      | 17.35        | 18.00         |
|           | 16QAM      | 1       | 0         | 17.60                   | 17.43      | 17.59        | 18.00         |
|           |            | 1       | 38        | 17.26                   | 17.36      | 17.36        | 18.00         |
|           |            | 1       | 74        | 17.57                   | 17.72      | 17.52        | 18.00         |
|           |            | 36      | 0         | 17.45                   | 17.43      | 17.36        | 18.00         |
|           |            | 36      | 18        | 17.36                   | 17.38      | 17.27        | 18.00         |
|           |            | 36      | 39        | 17.47                   | 17.46      | 17.35        | 18.00         |
|           |            | 75      | 0         | 17.30                   | 17.42      | 17.26        | 18.00         |
|           | 64QAM      | 1       | 0         | 17.55                   | 17.50      | 17.66        | 18.00         |
|           |            | 1       | 38        | 17.46                   | 17.43      | 16.95        | 18.00         |
|           |            | 1       | 74        | 17.79                   | 17.61      | 16.71        | 18.00         |
|           |            | 36      | 0         | 17.46                   | 17.36      | 17.28        | 18.00         |
|           |            | 36      | 18        | 17.37                   | 17.35      | 17.17        | 18.00         |
|           |            | 36      | 39        | 17.40                   | 17.39      | 17.33        | 18.00         |
|           |            | 75      | 0         | 17.40                   | 17.44      | 17.38        | 18.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20850/2510              | 21100/2535 | 21350/2560   |               |



|       |       |     |    |       |       |       |       |
|-------|-------|-----|----|-------|-------|-------|-------|
| 20MHz | QPSK  | 1   | 0  | 17.51 | 17.52 | 17.38 | 18.00 |
|       |       | 1   | 50 | 17.46 | 17.58 | 17.81 | 18.00 |
|       |       | 1   | 99 | 17.55 | 17.50 | 17.46 | 18.00 |
|       |       | 50  | 0  | 17.42 | 17.41 | 17.37 | 18.00 |
|       |       | 50  | 25 | 17.41 | 17.40 | 17.38 | 18.00 |
|       |       | 50  | 50 | 17.44 | 17.38 | 17.41 | 18.00 |
|       |       | 100 | 0  | 17.34 | 17.45 | 17.31 | 18.00 |
|       | 16QAM | 1   | 0  | 17.58 | 17.39 | 17.54 | 18.00 |
|       |       | 1   | 50 | 17.22 | 17.34 | 17.32 | 18.00 |
|       |       | 1   | 99 | 17.55 | 17.69 | 17.50 | 18.00 |
|       |       | 50  | 0  | 17.42 | 17.39 | 17.33 | 18.00 |
|       |       | 50  | 25 | 17.33 | 17.36 | 17.24 | 18.00 |
|       |       | 50  | 50 | 17.44 | 17.41 | 17.31 | 18.00 |
|       |       | 100 | 0  | 17.28 | 17.38 | 17.23 | 18.00 |
|       | 64QAM | 1   | 0  | 17.53 | 17.46 | 17.61 | 18.00 |
|       |       | 1   | 50 | 17.42 | 17.41 | 16.91 | 18.00 |
|       |       | 1   | 99 | 17.77 | 17.58 | 16.69 | 18.00 |
|       |       | 50  | 0  | 17.43 | 17.32 | 17.25 | 18.00 |
|       |       | 50  | 25 | 17.34 | 17.33 | 17.14 | 18.00 |
|       |       | 50  | 50 | 17.37 | 17.34 | 17.29 | 18.00 |
|       |       | 100 | 0  | 17.38 | 17.40 | 17.35 | 18.00 |

| LTE FDD Band 7<br>(REC On+Right Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |            |              |               |
|------------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                                |            |         |           | 20775/2502.5            | 21100/2535 | 21425/2567.5 |               |
| 5MHz                                           | QPSK       | 1       | 0         | 11.69                   | 12.11      | 11.96        | 13.00         |
|                                                |            | 1       | 13        | 12.05                   | 11.96      | 12.31        | 13.00         |
|                                                |            | 1       | 24        | 12.16                   | 11.46      | 11.88        | 13.00         |
|                                                |            | 12      | 0         | 12.00                   | 12.34      | 12.31        | 13.00         |
|                                                |            | 12      | 6         | 11.97                   | 11.85      | 12.29        | 13.00         |
|                                                |            | 12      | 13        | 12.36                   | 11.59      | 12.05        | 13.00         |
|                                                |            | 25      | 0         | 12.14                   | 12.14      | 12.32        | 13.00         |
|                                                | 16QAM      | 1       | 0         | 12.08                   | 12.47      | 12.26        | 13.00         |
|                                                |            | 1       | 13        | 12.30                   | 12.38      | 12.48        | 13.00         |
|                                                |            | 1       | 24        | 12.52                   | 12.06      | 12.17        | 13.00         |
|                                                |            | 12      | 0         | 12.05                   | 12.39      | 12.30        | 13.00         |
|                                                |            | 12      | 6         | 11.99                   | 11.90      | 12.31        | 13.00         |
|                                                |            | 12      | 13        | 12.30                   | 11.62      | 12.04        | 13.00         |
|                                                |            | 25      | 0         | 12.21                   | 12.15      | 12.26        | 13.00         |
|                                                | 64QAM      | 1       | 0         | 12.09                   | 12.18      | 12.28        | 13.00         |
|                                                |            | 1       | 13        | 12.12                   | 12.17      | 12.22        | 13.00         |
|                                                |            | 1       | 24        | 12.40                   | 11.94      | 12.13        | 13.00         |



|           |            | 12      | 0         | 12.14                   | 11.70      | 12.32        | 13.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 12      | 6         | 12.08                   | 11.75      | 12.33        | 13.00         |
|           |            | 12      | 13        | 12.04                   | 11.68      | 12.08        | 13.00         |
|           |            | 25      | 0         | 12.24                   | 12.01      | 12.30        | 13.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20800/2505              | 21100/2535 | 21400/2565   |               |
| 10MHz     | QPSK       | 1       | 0         | 11.71                   | 12.12      | 11.99        | 13.00         |
|           |            | 1       | 25        | 12.08                   | 12.01      | 12.35        | 13.00         |
|           |            | 1       | 49        | 12.18                   | 11.50      | 11.91        | 13.00         |
|           |            | 25      | 0         | 12.03                   | 12.39      | 12.35        | 13.00         |
|           |            | 25      | 13        | 12.00                   | 11.90      | 12.33        | 13.00         |
|           |            | 25      | 25        | 12.38                   | 11.63      | 12.10        | 13.00         |
|           |            | 50      | 0         | 12.22                   | 12.16      | 12.36        | 13.00         |
|           | 16QAM      | 1       | 0         | 12.10                   | 12.50      | 12.28        | 13.00         |
|           |            | 1       | 25        | 12.33                   | 12.42      | 12.51        | 13.00         |
|           |            | 1       | 49        | 12.55                   | 12.08      | 12.20        | 13.00         |
|           |            | 25      | 0         | 12.08                   | 12.44      | 12.34        | 13.00         |
|           |            | 25      | 13        | 12.01                   | 11.94      | 12.34        | 13.00         |
|           |            | 25      | 25        | 12.33                   | 11.67      | 12.08        | 13.00         |
|           |            | 50      | 0         | 12.24                   | 12.20      | 12.30        | 13.00         |
|           | 64QAM      | 1       | 0         | 12.11                   | 12.21      | 12.30        | 13.00         |
|           |            | 1       | 25        | 12.15                   | 12.21      | 12.25        | 13.00         |
|           |            | 1       | 49        | 12.43                   | 11.96      | 12.16        | 13.00         |
|           |            | 25      | 0         | 12.17                   | 11.75      | 12.36        | 13.00         |
|           |            | 25      | 13        | 12.10                   | 11.79      | 12.36        | 13.00         |
|           |            | 25      | 25        | 12.07                   | 11.73      | 12.12        | 13.00         |
|           |            | 50      | 0         | 12.27                   | 12.06      | 12.34        | 13.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20825/2507.5            | 21100/2535 | 21375/2562.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 11.70                   | 12.08      | 11.97        | 13.00         |
|           |            | 1       | 38        | 12.06                   | 12.00      | 12.32        | 13.00         |
|           |            | 1       | 74        | 12.15                   | 11.45      | 11.87        | 13.00         |
|           |            | 36      | 0         | 12.01                   | 12.35      | 12.32        | 13.00         |
|           |            | 36      | 18        | 11.97                   | 11.85      | 12.29        | 13.00         |
|           |            | 36      | 39        | 12.35                   | 11.60      | 12.06        | 13.00         |
|           |            | 75      | 0         | 12.20                   | 12.12      | 12.31        | 13.00         |
|           | 16QAM      | 1       | 0         | 12.05                   | 12.48      | 12.26        | 13.00         |
|           |            | 1       | 38        | 12.31                   | 12.39      | 12.49        | 13.00         |
|           |            | 1       | 74        | 12.52                   | 12.04      | 12.17        | 13.00         |
|           |            | 36      | 0         | 12.05                   | 12.42      | 12.31        | 13.00         |
|           |            | 36      | 18        | 11.98                   | 11.89      | 12.30        | 13.00         |
|           |            | 36      | 39        | 12.31                   | 11.63      | 12.05        | 13.00         |
|           |            | 75      | 0         | 12.21                   | 12.15      | 12.26        | 13.00         |





|           | 64QAM      | 1       | 0         | 12.06                   | 12.19      | 12.28      | 13.00         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 1       | 38        | 12.13                   | 12.18      | 12.23      | 13.00         |
|           |            | 1       | 74        | 12.40                   | 11.92      | 12.13      | 13.00         |
|           |            | 36      | 0         | 12.14                   | 11.73      | 12.33      | 13.00         |
|           |            | 36      | 18        | 12.07                   | 11.74      | 12.32      | 13.00         |
|           |            | 36      | 39        | 12.05                   | 11.69      | 12.09      | 13.00         |
|           |            | 75      | 0         | 12.24                   | 12.01      | 12.30      | 13.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 20850/2510              | 21100/2535 | 21350/2560 |               |
| 20MHz     | QPSK       | 1       | 0         | 11.67                   | 12.04      | 11.94      | 13.00         |
|           |            | 1       | 50        | 12.05                   | 11.96      | 12.30      | 13.00         |
|           |            | 1       | 99        | 12.13                   | 11.44      | 11.84      | 13.00         |
|           |            | 50      | 0         | 11.98                   | 12.30      | 12.28      | 13.00         |
|           |            | 50      | 25        | 11.95                   | 11.81      | 12.26      | 13.00         |
|           |            | 50      | 50        | 12.32                   | 11.55      | 12.02      | 13.00         |
|           |            | 100     | 0         | 12.17                   | 12.07      | 12.27      | 13.00         |
|           | 16QAM      | 1       | 0         | 12.03                   | 12.44      | 12.21      | 13.00         |
|           |            | 1       | 50        | 12.27                   | 12.37      | 12.45      | 13.00         |
|           |            | 1       | 99        | 12.50                   | 12.01      | 12.15      | 13.00         |
|           |            | 50      | 0         | 12.02                   | 12.38      | 12.28      | 13.00         |
|           |            | 50      | 25        | 11.95                   | 11.87      | 12.27      | 13.00         |
|           |            | 50      | 50        | 12.28                   | 11.58      | 12.01      | 13.00         |
|           |            | 100     | 0         | 12.19                   | 12.11      | 12.23      | 13.00         |
|           | 64QAM      | 1       | 0         | 12.04                   | 12.15      | 12.23      | 13.00         |
|           |            | 1       | 50        | 12.09                   | 12.16      | 12.19      | 13.00         |
|           |            | 1       | 99        | 12.38                   | 11.89      | 12.11      | 13.00         |
|           |            | 50      | 0         | 12.11                   | 11.69      | 12.30      | 13.00         |
|           |            | 50      | 25        | 12.04                   | 11.72      | 12.29      | 13.00         |
|           |            | 50      | 50        | 12.02                   | 11.64      | 12.05      | 13.00         |
|           |            | 100     | 0         | 12.22                   | 11.97      | 12.27      | 13.00         |

| LTE FDD Band 7<br>(REC Off) |            |         |           | Conducted Power(dBm)    |            |              |               |
|-----------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                   | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                             |            |         |           | 20775/2502.5            | 21100/2535 | 21425/2567.5 |               |
| 5MHz                        | QPSK       | 1       | 0         | 20.49                   | 20.48      | 20.37        | 21.00         |
|                             |            | 1       | 13        | 20.31                   | 20.26      | 20.33        | 21.00         |
|                             |            | 1       | 24        | 20.39                   | 20.35      | 20.48        | 21.00         |
|                             |            | 12      | 0         | 20.43                   | 20.40      | 20.36        | 21.00         |
|                             |            | 12      | 6         | 20.40                   | 20.35      | 20.40        | 21.00         |
|                             |            | 12      | 13        | 20.39                   | 20.30      | 20.42        | 21.00         |
|                             |            | 25      | 0         | 20.41                   | 20.51      | 20.33        | 21.00         |
|                             | 16QAM      | 1       | 0         | 20.46                   | 20.32      | 20.48        | 21.00         |



|           |            | 1       | 13        | 20.45                   | 20.33      | 20.05        | 21.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 1       | 24        | 20.46                   | 20.32      | 20.39        | 21.00         |
|           |            | 12      | 0         | 20.49                   | 20.35      | 20.24        | 21.00         |
|           |            | 12      | 6         | 20.35                   | 20.25      | 20.28        | 21.00         |
|           |            | 12      | 13        | 20.35                   | 20.29      | 20.28        | 21.00         |
|           |            | 25      | 0         | 20.32                   | 20.36      | 20.33        | 21.00         |
|           | 64QAM      | 1       | 0         | 20.43                   | 20.39      | 20.51        | 21.00         |
|           |            | 1       | 13        | 20.38                   | 20.21      | 20.18        | 21.00         |
|           |            | 1       | 24        | 20.49                   | 20.40      | 20.39        | 21.00         |
|           |            | 12      | 0         | 20.37                   | 20.26      | 20.36        | 21.00         |
|           |            | 12      | 6         | 20.39                   | 20.29      | 20.20        | 21.00         |
|           |            | 12      | 13        | 20.35                   | 20.22      | 20.31        | 21.00         |
|           |            | 25      | 0         | 20.43                   | 20.40      | 20.32        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20800/2505              | 21100/2535 | 21400/2565   |               |
| 10MHz     | QPSK       | 1       | 0         | 20.51                   | 20.49      | 20.40        | 21.00         |
|           |            | 1       | 25        | 20.34                   | 20.31      | 20.37        | 21.00         |
|           |            | 1       | 49        | 20.41                   | 20.39      | 20.51        | 21.00         |
|           |            | 25      | 0         | 20.46                   | 20.45      | 20.40        | 21.00         |
|           |            | 25      | 13        | 20.43                   | 20.40      | 20.44        | 21.00         |
|           |            | 25      | 25        | 20.41                   | 20.34      | 20.47        | 21.00         |
|           |            | 50      | 0         | 20.49                   | 20.53      | 20.37        | 21.00         |
|           | 16QAM      | 1       | 0         | 20.48                   | 20.35      | 20.50        | 21.00         |
|           |            | 1       | 25        | 20.48                   | 20.37      | 20.08        | 21.00         |
|           |            | 1       | 49        | 20.49                   | 20.34      | 20.42        | 21.00         |
|           |            | 25      | 0         | 20.52                   | 20.40      | 20.28        | 21.00         |
|           |            | 25      | 13        | 20.37                   | 20.29      | 20.31        | 21.00         |
|           |            | 25      | 25        | 20.38                   | 20.34      | 20.32        | 21.00         |
|           |            | 50      | 0         | 20.35                   | 20.41      | 20.37        | 21.00         |
|           | 64QAM      | 1       | 0         | 20.45                   | 20.42      | 20.53        | 21.00         |
|           |            | 1       | 25        | 20.41                   | 20.25      | 20.21        | 21.00         |
|           |            | 1       | 49        | 20.52                   | 20.42      | 20.42        | 21.00         |
|           |            | 25      | 0         | 20.40                   | 20.31      | 20.40        | 21.00         |
|           |            | 25      | 13        | 20.41                   | 20.33      | 20.23        | 21.00         |
|           |            | 25      | 25        | 20.38                   | 20.27      | 20.35        | 21.00         |
|           |            | 50      | 0         | 20.46                   | 20.45      | 20.36        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20825/2507.5            | 21100/2535 | 21375/2562.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 20.50                   | 20.45      | 20.38        | 21.00         |
|           |            | 1       | 38        | 20.32                   | 20.30      | 20.34        | 21.00         |
|           |            | 1       | 74        | 20.38                   | 20.34      | 20.47        | 21.00         |
|           |            | 36      | 0         | 20.44                   | 20.41      | 20.37        | 21.00         |
|           |            | 36      | 18        | 20.40                   | 20.35      | 20.40        | 21.00         |



|           |            | 36      | 39        | 20.38                   | 20.31      | 20.43      | 21.00         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 75      | 0         | 20.47                   | 20.49      | 20.32      | 21.00         |
|           | 16QAM      | 1       | 0         | 20.43                   | 20.33      | 20.48      | 21.00         |
|           |            | 1       | 38        | 20.46                   | 20.34      | 20.06      | 21.00         |
|           |            | 1       | 74        | 20.46                   | 20.30      | 20.39      | 21.00         |
|           |            | 36      | 0         | 20.49                   | 20.38      | 20.25      | 21.00         |
|           |            | 36      | 18        | 20.34                   | 20.24      | 20.27      | 21.00         |
|           |            | 36      | 39        | 20.36                   | 20.30      | 20.29      | 21.00         |
|           |            | 75      | 0         | 20.32                   | 20.36      | 20.33      | 21.00         |
|           | 64QAM      | 1       | 0         | 20.40                   | 20.40      | 20.51      | 21.00         |
|           |            | 1       | 38        | 20.39                   | 20.22      | 20.19      | 21.00         |
|           |            | 1       | 74        | 20.49                   | 20.38      | 20.39      | 21.00         |
|           |            | 36      | 0         | 20.37                   | 20.29      | 20.37      | 21.00         |
|           |            | 36      | 18        | 20.38                   | 20.28      | 20.19      | 21.00         |
|           |            | 36      | 39        | 20.36                   | 20.23      | 20.32      | 21.00         |
|           |            | 75      | 0         | 20.43                   | 20.40      | 20.32      | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 20850/2510              | 21100/2535 | 21350/2560 |               |
| 20MHz     | QPSK       | 1       | 0         | 20.47                   | 20.41      | 20.35      | 21.00         |
|           |            | 1       | 50        | 20.31                   | 20.26      | 20.32      | 21.00         |
|           |            | 1       | 99        | 20.36                   | 20.33      | 20.44      | 21.00         |
|           |            | 50      | 0         | 20.41                   | 20.36      | 20.33      | 21.00         |
|           |            | 50      | 25        | 20.38                   | 20.31      | 20.37      | 21.00         |
|           |            | 50      | 50        | 20.35                   | 20.26      | 20.39      | 21.00         |
|           |            | 100     | 0         | 20.44                   | 20.44      | 20.28      | 21.00         |
|           | 16QAM      | 1       | 0         | 20.41                   | 20.29      | 20.43      | 21.00         |
|           |            | 1       | 50        | 20.42                   | 20.32      | 20.02      | 21.00         |
|           |            | 1       | 99        | 20.44                   | 20.27      | 20.37      | 21.00         |
|           |            | 50      | 0         | 20.46                   | 20.34      | 20.22      | 21.00         |
|           |            | 50      | 25        | 20.31                   | 20.22      | 20.24      | 21.00         |
|           |            | 50      | 50        | 20.33                   | 20.25      | 20.25      | 21.00         |
|           |            | 100     | 0         | 20.30                   | 20.32      | 20.30      | 21.00         |
|           | 64QAM      | 1       | 0         | 20.38                   | 20.36      | 20.46      | 21.00         |
|           |            | 1       | 50        | 20.35                   | 20.20      | 20.15      | 21.00         |
|           |            | 1       | 99        | 20.47                   | 20.35      | 20.37      | 21.00         |
|           |            | 50      | 0         | 20.34                   | 20.25      | 20.34      | 21.00         |
|           |            | 50      | 25        | 20.35                   | 20.26      | 20.16      | 21.00         |
|           |            | 50      | 50        | 20.33                   | 20.18      | 20.28      | 21.00         |
|           |            | 100     | 0         | 20.41                   | 20.36      | 20.29      | 21.00         |



| LTE FDD Band 7<br>(REC Off+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |            |              |               |
|--------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                            | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                      |            |         |           | 20775/2502.5            | 21100/2535 | 21425/2567.5 |               |
| 5MHz                                 | QPSK       | 1       | 0         | 17.56                   | 17.44      | 17.36        | 18.00         |
|                                      |            | 1       | 13        | 17.53                   | 17.41      | 17.39        | 18.00         |
|                                      |            | 1       | 24        | 17.45                   | 17.47      | 17.45        | 18.00         |
|                                      |            | 12      | 0         | 17.45                   | 17.34      | 17.34        | 18.00         |
|                                      |            | 12      | 6         | 17.27                   | 17.35      | 17.36        | 18.00         |
|                                      |            | 12      | 13        | 17.46                   | 17.37      | 17.40        | 18.00         |
|                                      |            | 25      | 0         | 17.44                   | 17.41      | 17.32        | 18.00         |
|                                      | 16QAM      | 1       | 0         | 17.56                   | 17.49      | 17.59        | 18.00         |
|                                      |            | 1       | 13        | 17.34                   | 17.42      | 17.04        | 18.00         |
|                                      |            | 1       | 24        | 17.56                   | 17.29      | 17.50        | 18.00         |
|                                      |            | 12      | 0         | 17.40                   | 17.33      | 17.32        | 18.00         |
|                                      |            | 12      | 6         | 17.40                   | 17.29      | 17.30        | 18.00         |
|                                      |            | 12      | 13        | 17.27                   | 17.37      | 17.24        | 18.00         |
|                                      |            | 25      | 0         | 17.30                   | 17.35      | 17.30        | 18.00         |
|                                      | 64QAM      | 1       | 0         | 17.48                   | 17.50      | 17.47        | 18.00         |
|                                      |            | 1       | 13        | 17.40                   | 17.41      | 17.56        | 18.00         |
|                                      |            | 1       | 24        | 17.42                   | 17.39      | 17.49        | 18.00         |
|                                      |            | 12      | 0         | 17.25                   | 17.44      | 17.25        | 18.00         |
|                                      |            | 12      | 6         | 17.38                   | 17.30      | 17.33        | 18.00         |
|                                      |            | 12      | 13        | 17.35                   | 17.36      | 17.22        | 18.00         |
|                                      |            | 25      | 0         | 17.29                   | 17.34      | 17.21        | 18.00         |
| Bandwidth                            | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                      |            |         |           | 20800/2505              | 21100/2535 | 21400/2565   |               |
| 10MHz                                | QPSK       | 1       | 0         | 17.58                   | 17.45      | 17.39        | 18.00         |
|                                      |            | 1       | 25        | 17.56                   | 17.46      | 17.43        | 18.00         |
|                                      |            | 1       | 49        | 17.47                   | 17.51      | 17.48        | 18.00         |
|                                      |            | 25      | 0         | 17.48                   | 17.39      | 17.38        | 18.00         |
|                                      |            | 25      | 13        | 17.30                   | 17.40      | 17.40        | 18.00         |
|                                      |            | 25      | 25        | 17.48                   | 17.41      | 17.45        | 18.00         |
|                                      |            | 50      | 0         | 17.52                   | 17.43      | 17.36        | 18.00         |
|                                      | 16QAM      | 1       | 0         | 17.58                   | 17.52      | 17.61        | 18.00         |
|                                      |            | 1       | 25        | 17.37                   | 17.46      | 17.07        | 18.00         |
|                                      |            | 1       | 49        | 17.59                   | 17.31      | 17.53        | 18.00         |
|                                      |            | 25      | 0         | 17.43                   | 17.38      | 17.36        | 18.00         |
|                                      |            | 25      | 13        | 17.42                   | 17.33      | 17.33        | 18.00         |
|                                      |            | 25      | 25        | 17.30                   | 17.42      | 17.28        | 18.00         |
|                                      |            | 50      | 0         | 17.33                   | 17.40      | 17.34        | 18.00         |
|                                      | 64QAM      | 1       | 0         | 17.50                   | 17.53      | 17.49        | 18.00         |
|                                      |            | 1       | 25        | 17.43                   | 17.45      | 17.59        | 18.00         |



|           |            | 1       | 49        | 17.45                   | 17.41      | 17.52        | 18.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 25      | 0         | 17.28                   | 17.49      | 17.29        | 18.00         |
|           |            | 25      | 13        | 17.40                   | 17.34      | 17.36        | 18.00         |
|           |            | 25      | 25        | 17.38                   | 17.41      | 17.26        | 18.00         |
|           |            | 50      | 0         | 17.32                   | 17.39      | 17.25        | 18.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20825/2507.5            | 21100/2535 | 21375/2562.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 17.57                   | 17.41      | 17.37        | 18.00         |
|           |            | 1       | 38        | 17.54                   | 17.45      | 17.40        | 18.00         |
|           |            | 1       | 74        | 17.44                   | 17.46      | 17.44        | 18.00         |
|           |            | 36      | 0         | 17.46                   | 17.35      | 17.35        | 18.00         |
|           |            | 36      | 18        | 17.27                   | 17.35      | 17.36        | 18.00         |
|           |            | 36      | 39        | 17.45                   | 17.38      | 17.41        | 18.00         |
|           |            | 75      | 0         | 17.50                   | 17.39      | 17.31        | 18.00         |
|           | 16QAM      | 1       | 0         | 17.53                   | 17.50      | 17.59        | 18.00         |
|           |            | 1       | 38        | 17.35                   | 17.43      | 17.05        | 18.00         |
|           |            | 1       | 74        | 17.56                   | 17.27      | 17.50        | 18.00         |
|           |            | 36      | 0         | 17.40                   | 17.36      | 17.33        | 18.00         |
|           |            | 36      | 18        | 17.39                   | 17.28      | 17.29        | 18.00         |
|           |            | 36      | 39        | 17.28                   | 17.38      | 17.25        | 18.00         |
|           |            | 75      | 0         | 17.30                   | 17.35      | 17.30        | 18.00         |
|           | 64QAM      | 1       | 0         | 17.45                   | 17.51      | 17.47        | 18.00         |
|           |            | 1       | 38        | 17.41                   | 17.42      | 17.57        | 18.00         |
|           |            | 1       | 74        | 17.42                   | 17.37      | 17.49        | 18.00         |
|           |            | 36      | 0         | 17.25                   | 17.47      | 17.26        | 18.00         |
|           |            | 36      | 18        | 17.37                   | 17.29      | 17.32        | 18.00         |
|           |            | 36      | 39        | 17.36                   | 17.37      | 17.23        | 18.00         |
|           |            | 75      | 0         | 17.29                   | 17.34      | 17.21        | 18.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 20850/2510              | 21100/2535 | 21350/2560   |               |
| 20MHz     | QPSK       | 1       | 0         | 17.54                   | 17.37      | 17.34        | 18.00         |
|           |            | 1       | 50        | 17.53                   | 17.41      | 17.38        | 18.00         |
|           |            | 1       | 99        | 17.42                   | 17.45      | 17.41        | 18.00         |
|           |            | 50      | 0         | 17.43                   | 17.30      | 17.31        | 18.00         |
|           |            | 50      | 25        | 17.25                   | 17.31      | 17.33        | 18.00         |
|           |            | 50      | 50        | 17.42                   | 17.33      | 17.37        | 18.00         |
|           |            | 100     | 0         | 17.47                   | 17.34      | 17.27        | 18.00         |
|           | 16QAM      | 1       | 0         | 17.51                   | 17.46      | 17.54        | 18.00         |
|           |            | 1       | 50        | 17.31                   | 17.41      | 17.01        | 18.00         |
|           |            | 1       | 99        | 17.54                   | 17.24      | 17.48        | 18.00         |
|           |            | 50      | 0         | 17.37                   | 17.32      | 17.30        | 18.00         |
|           |            | 50      | 25        | 17.36                   | 17.26      | 17.26        | 18.00         |
|           |            | 50      | 50        | 17.25                   | 17.33      | 17.21        | 18.00         |



|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  | 64QAM | 100 | 0  | 17.28 | 17.31 | 17.27 | 18.00 |
|  |       | 1   | 0  | 17.43 | 17.47 | 17.42 | 18.00 |
|  |       | 1   | 50 | 17.37 | 17.40 | 17.53 | 18.00 |
|  |       | 1   | 99 | 17.40 | 17.34 | 17.47 | 18.00 |
|  |       | 50  | 0  | 17.22 | 17.43 | 17.23 | 18.00 |
|  |       | 50  | 25 | 17.34 | 17.27 | 17.29 | 18.00 |
|  |       | 50  | 50 | 17.33 | 17.32 | 17.19 | 18.00 |
|  |       | 100 | 0  | 17.27 | 17.30 | 17.18 | 18.00 |

| LTE FDD Band 12<br>(REC On+ Left Head) |            |         |           | Conducted Power(dBm)    |             |             |                  |
|----------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|------------------|
| Bandwidth                              | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                        |            |         |           | 23017/699.7             | 23095/707.5 | 23173/715.3 |                  |
| 1.4MHz                                 | QPSK       | 1       | 0         | 21.87                   | 21.88       | 22.04       | 22.50            |
|                                        |            | 1       | 2         | 21.78                   | 21.92       | 21.98       | 22.50            |
|                                        |            | 1       | 5         | 21.98                   | 21.96       | 22.00       | 22.50            |
|                                        |            | 3       | 0         | 21.83                   | 21.94       | 21.92       | 22.50            |
|                                        |            | 3       | 2         | 21.95                   | 22.10       | 22.10       | 22.50            |
|                                        |            | 3       | 3         | 22.00                   | 22.03       | 22.05       | 22.50            |
|                                        |            | 6       | 0         | 21.60                   | 21.88       | 21.85       | 22.50            |
|                                        | 16QAM      | 1       | 0         | 21.95                   | 21.83       | 22.02       | 22.50            |
|                                        |            | 1       | 2         | 21.90                   | 21.79       | 21.86       | 22.50            |
|                                        |            | 1       | 5         | 22.07                   | 22.02       | 22.11       | 22.50            |
|                                        |            | 3       | 0         | 21.74                   | 21.77       | 21.68       | 22.50            |
|                                        |            | 3       | 2         | 21.71                   | 21.81       | 21.84       | 22.50            |
|                                        |            | 3       | 3         | 21.73                   | 21.74       | 21.62       | 22.50            |
|                                        |            | 6       | 0         | 20.82                   | 20.84       | 20.79       | 21.50            |
|                                        | 64QAM      | 1       | 0         | 21.31                   | 21.27       | 21.43       | 21.50            |
|                                        |            | 1       | 2         | 21.37                   | 21.39       | 21.35       | 21.50            |
|                                        |            | 1       | 5         | 21.44                   | 21.37       | 21.47       | 21.50            |
|                                        |            | 3       | 0         | 21.13                   | 21.22       | 21.36       | 21.50            |
|                                        |            | 3       | 2         | 21.35                   | 21.31       | 21.36       | 21.50            |
|                                        |            | 3       | 3         | 21.21                   | 21.29       | 21.21       | 21.50            |
|                                        |            | 6       | 0         | 20.28                   | 20.32       | 20.40       | 20.50            |
| Bandwidth                              | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                        |            |         |           | 23025/700.5             | 23095/707.5 | 23165/714.5 |                  |
| 3MHz                                   | QPSK       | 1       | 0         | 21.88                   | 21.91       | 22.06       | 22.50            |
|                                        |            | 1       | 7         | 21.82                   | 21.98       | 22.03       | 22.50            |
|                                        |            | 1       | 14        | 22.00                   | 22.00       | 22.03       | 22.50            |
|                                        |            | 8       | 0         | 21.73                   | 21.86       | 21.85       | 22.50            |
|                                        |            | 8       | 4         | 21.88                   | 22.01       | 22.01       | 22.50            |
|                                        |            | 8       | 7         | 21.90                   | 21.96       | 21.96       | 22.50            |
|                                        |            | 15      | 0         | 21.69                   | 21.93       | 21.90       | 22.50            |



|           | 16QAM      | 1       | 0         | 21.97                   | 21.84       | 22.04       | 22.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 1       | 7         | 21.93                   | 21.86       | 21.90       | 22.50         |
|           |            | 1       | 14        | 22.09                   | 22.06       | 22.13       | 22.50         |
|           |            | 8       | 0         | 20.86                   | 20.91       | 20.81       | 21.50         |
|           |            | 8       | 4         | 20.81                   | 20.93       | 20.95       | 21.50         |
|           |            | 8       | 7         | 20.83                   | 20.86       | 20.75       | 21.50         |
|           |            | 15      | 0         | 20.86                   | 20.89       | 20.81       | 21.50         |
|           | 64QAM      | 1       | 0         | 21.33                   | 21.28       | 21.45       | 21.50         |
|           |            | 1       | 7         | 21.40                   | 21.46       | 21.39       | 21.50         |
|           |            | 1       | 14        | 21.46                   | 21.41       | 21.49       | 21.50         |
|           |            | 8       | 0         | 20.25                   | 20.36       | 20.49       | 20.50         |
|           |            | 8       | 4         | 20.45                   | 20.43       | 20.47       | 20.50         |
|           |            | 8       | 7         | 20.31                   | 20.41       | 20.34       | 20.50         |
|           |            | 15      | 0         | 20.32                   | 20.37       | 20.42       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 23035/701.5             | 23095/707.5 | 23155/713.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 21.87                   | 21.87       | 22.04       | 22.50         |
|           |            | 1       | 13        | 21.80                   | 21.97       | 22.00       | 22.50         |
|           |            | 1       | 24        | 21.97                   | 21.95       | 21.99       | 22.50         |
|           |            | 12      | 0         | 21.71                   | 21.82       | 21.82       | 22.50         |
|           |            | 12      | 6         | 21.85                   | 21.96       | 21.97       | 22.50         |
|           |            | 12      | 13        | 21.87                   | 21.93       | 21.92       | 22.50         |
|           |            | 25      | 0         | 21.67                   | 21.89       | 21.85       | 22.50         |
|           | 16QAM      | 1       | 0         | 21.92                   | 21.82       | 22.02       | 22.50         |
|           |            | 1       | 13        | 21.91                   | 21.83       | 21.88       | 22.50         |
|           |            | 1       | 24        | 22.06                   | 22.02       | 22.10       | 22.50         |
|           |            | 12      | 0         | 20.83                   | 20.89       | 20.78       | 21.50         |
|           |            | 12      | 6         | 20.78                   | 20.88       | 20.91       | 21.50         |
|           |            | 12      | 13        | 20.81                   | 20.82       | 20.72       | 21.50         |
|           |            | 25      | 0         | 20.83                   | 20.84       | 20.77       | 21.50         |
|           | 64QAM      | 1       | 0         | 21.28                   | 21.26       | 21.43       | 21.50         |
|           |            | 1       | 13        | 21.38                   | 21.43       | 21.37       | 21.50         |
|           |            | 1       | 24        | 21.43                   | 21.37       | 21.46       | 21.50         |
|           |            | 12      | 0         | 20.22                   | 20.34       | 20.46       | 20.50         |
|           |            | 12      | 6         | 20.42                   | 20.38       | 20.43       | 20.50         |
|           |            | 12      | 13        | 20.29                   | 20.37       | 20.31       | 20.50         |
|           |            | 25      | 0         | 20.29                   | 20.32       | 20.38       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 23060/704               | 23095/707.5 | 23130/711   |               |
| 10MHz     | QPSK       | 1       | 0         | 21.84                   | 21.83       | 22.01       | 22.50         |
|           |            | 1       | 25        | 21.79                   | 21.93       | 21.98       | 22.50         |
|           |            | 1       | 49        | 21.95                   | 21.94       | 21.96       | 22.50         |
|           |            | 25      | 0         | 21.68                   | 21.77       | 21.78       | 22.50         |



|  |       |    |    |       |       |       |       |
|--|-------|----|----|-------|-------|-------|-------|
|  |       | 25 | 13 | 21.83 | 21.92 | 21.94 | 22.50 |
|  |       | 25 | 25 | 21.84 | 21.88 | 21.88 | 22.50 |
|  |       | 50 | 0  | 21.64 | 21.84 | 21.81 | 22.50 |
|  | 16QAM | 1  | 0  | 21.90 | 21.78 | 21.97 | 22.50 |
|  |       | 1  | 25 | 21.87 | 21.81 | 21.84 | 22.50 |
|  |       | 1  | 49 | 22.04 | 21.99 | 22.08 | 22.50 |
|  |       | 25 | 0  | 20.80 | 20.85 | 20.75 | 21.50 |
|  |       | 25 | 13 | 20.75 | 20.86 | 20.88 | 21.50 |
|  |       | 25 | 25 | 20.78 | 20.77 | 20.68 | 21.50 |
|  |       | 50 | 0  | 20.81 | 20.80 | 20.74 | 21.50 |
|  | 64QAM | 1  | 0  | 21.26 | 21.22 | 21.38 | 21.50 |
|  |       | 1  | 25 | 21.34 | 21.41 | 21.33 | 21.50 |
|  |       | 1  | 49 | 21.41 | 21.34 | 21.44 | 21.50 |
|  |       | 25 | 0  | 20.19 | 20.30 | 20.43 | 20.50 |
|  |       | 25 | 13 | 20.39 | 20.36 | 20.40 | 20.50 |
|  |       | 25 | 25 | 20.26 | 20.32 | 20.27 | 20.50 |
|  |       | 50 | 0  | 20.27 | 20.28 | 20.35 | 20.50 |

| LTE FDD Band 12<br>(REC On+Right Head) |            |         |           | Conducted Power(dBm)    |             |             |                  |
|----------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|------------------|
| Bandwidth                              | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                        |            |         |           | 23017/699.7             | 23095/707.5 | 23173/715.3 |                  |
| 1.4MHz                                 | QPSK       | 1       | 0         | 21.70                   | 21.71       | 21.92       | 22.50            |
|                                        |            | 1       | 2         | 21.58                   | 21.72       | 21.78       | 22.50            |
|                                        |            | 1       | 5         | 21.75                   | 21.84       | 21.88       | 22.50            |
|                                        |            | 3       | 0         | 21.88                   | 21.96       | 21.95       | 22.50            |
|                                        |            | 3       | 2         | 21.82                   | 22.01       | 22.00       | 22.50            |
|                                        |            | 3       | 3         | 21.90                   | 21.93       | 21.95       | 22.50            |
|                                        |            | 6       | 0         | 21.59                   | 21.87       | 21.84       | 22.50            |
|                                        | 16QAM      | 1       | 0         | 21.79                   | 21.67       | 21.86       | 22.50            |
|                                        |            | 1       | 2         | 21.90                   | 21.79       | 21.86       | 22.50            |
|                                        |            | 1       | 5         | 21.81                   | 21.76       | 21.95       | 22.50            |
|                                        |            | 3       | 0         | 21.65                   | 21.68       | 21.59       | 22.50            |
|                                        |            | 3       | 2         | 21.58                   | 21.68       | 21.71       | 22.50            |
|                                        |            | 3       | 3         | 21.73                   | 21.74       | 21.62       | 22.50            |
|                                        |            | 6       | 0         | 20.74                   | 20.76       | 20.71       | 21.50            |
|                                        | 64QAM      | 1       | 0         | 21.11                   | 21.07       | 21.23       | 21.50            |
|                                        |            | 1       | 2         | 21.07                   | 21.09       | 21.05       | 21.50            |
|                                        |            | 1       | 5         | 21.11                   | 21.04       | 21.14       | 21.50            |
|                                        |            | 3       | 0         | 21.16                   | 21.25       | 21.39       | 21.50            |
|                                        |            | 3       | 2         | 21.25                   | 21.21       | 21.26       | 21.50            |
|                                        |            | 3       | 3         | 21.29                   | 21.37       | 21.29       | 21.50            |
|                                        |            | 6       | 0         | 20.31                   | 20.35       | 20.43       | 20.50            |





| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            |         |           | 23025/700.5             | 23095/707.5 | 23165/714.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 21.71                   | 21.74       | 21.94       | 22.50         |
|           |            | 1       | 7         | 21.62                   | 21.78       | 21.83       | 22.50         |
|           |            | 1       | 14        | 21.77                   | 21.88       | 21.91       | 22.50         |
|           |            | 8       | 0         | 21.78                   | 21.88       | 21.88       | 22.50         |
|           |            | 8       | 4         | 21.75                   | 21.92       | 21.91       | 22.50         |
|           |            | 8       | 7         | 21.80                   | 21.86       | 21.86       | 22.50         |
|           |            | 15      | 0         | 21.68                   | 21.92       | 21.89       | 22.50         |
|           | 16QAM      | 1       | 0         | 21.81                   | 21.68       | 21.88       | 22.50         |
|           |            | 1       | 7         | 21.93                   | 21.86       | 21.90       | 22.50         |
|           |            | 1       | 14        | 21.83                   | 21.80       | 21.97       | 22.50         |
|           |            | 8       | 0         | 20.77                   | 20.82       | 20.72       | 21.50         |
|           |            | 8       | 4         | 20.68                   | 20.80       | 20.82       | 21.50         |
|           |            | 8       | 7         | 20.83                   | 20.86       | 20.75       | 21.50         |
|           |            | 15      | 0         | 20.78                   | 20.81       | 20.73       | 21.50         |
|           | 64QAM      | 1       | 0         | 21.13                   | 21.08       | 21.25       | 21.50         |
|           |            | 1       | 7         | 21.10                   | 21.16       | 21.09       | 21.50         |
|           |            | 1       | 14        | 21.13                   | 21.08       | 21.16       | 21.50         |
|           |            | 8       | 0         | 20.28                   | 20.39       | 20.32       | 20.50         |
|           |            | 8       | 4         | 20.35                   | 20.33       | 20.37       | 20.50         |
|           |            | 8       | 7         | 20.39                   | 20.49       | 20.42       | 20.50         |
|           |            | 15      | 0         | 20.35                   | 20.40       | 20.45       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 23035/701.5             | 23095/707.5 | 23155/713.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 21.70                   | 21.70       | 21.92       | 22.50         |
|           |            | 1       | 13        | 21.60                   | 21.77       | 21.80       | 22.50         |
|           |            | 1       | 24        | 21.74                   | 21.83       | 21.87       | 22.50         |
|           |            | 12      | 0         | 21.76                   | 21.84       | 21.85       | 22.50         |
|           |            | 12      | 6         | 21.72                   | 21.87       | 21.87       | 22.50         |
|           |            | 12      | 13        | 21.77                   | 21.83       | 21.82       | 22.50         |
|           |            | 25      | 0         | 21.66                   | 21.88       | 21.84       | 22.50         |
|           | 16QAM      | 1       | 0         | 21.76                   | 21.66       | 21.86       | 22.50         |
|           |            | 1       | 13        | 21.91                   | 21.83       | 21.88       | 22.50         |
|           |            | 1       | 24        | 21.80                   | 21.76       | 21.94       | 22.50         |
|           |            | 12      | 0         | 20.74                   | 20.80       | 20.69       | 21.50         |
|           |            | 12      | 6         | 20.65                   | 20.75       | 20.78       | 21.50         |
|           |            | 12      | 13        | 20.81                   | 20.82       | 20.72       | 21.50         |
|           |            | 25      | 0         | 20.75                   | 20.76       | 20.69       | 21.50         |
|           | 64QAM      | 1       | 0         | 21.08                   | 21.06       | 21.23       | 21.50         |
|           |            | 1       | 13        | 21.08                   | 21.13       | 21.07       | 21.50         |
|           |            | 1       | 24        | 21.10                   | 21.04       | 21.13       | 21.50         |
|           |            | 12      | 0         | 20.25                   | 20.37       | 20.49       | 20.50         |



|           |            | 12      | 6         | 20.32                   | 20.28       | 20.33     | 20.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-----------|---------------|
|           |            | 12      | 13        | 20.37                   | 20.45       | 20.39     | 20.50         |
|           |            | 25      | 0         | 20.32                   | 20.35       | 20.41     | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |           | Tune-up Limit |
|           |            |         |           | 23060/704               | 23095/707.5 | 23130/711 |               |
| 10MHz     | QPSK       | 1       | 0         | 21.77                   | 21.76       | 21.99     | 22.50         |
|           |            | 1       | 25        | 21.69                   | 21.83       | 21.88     | 22.50         |
|           |            | 1       | 49        | 21.82                   | 21.92       | 21.94     | 22.50         |
|           |            | 25      | 0         | 21.83                   | 21.89       | 21.91     | 22.50         |
|           |            | 25      | 13        | 21.80                   | 21.93       | 21.94     | 22.50         |
|           |            | 25      | 25        | 21.84                   | 21.88       | 21.88     | 22.50         |
|           |            | 50      | 0         | 21.73                   | 21.93       | 21.90     | 22.50         |
|           | 16QAM      | 1       | 0         | 21.84                   | 21.72       | 21.91     | 22.50         |
|           |            | 1       | 25        | 21.97                   | 21.91       | 21.94     | 22.50         |
|           |            | 1       | 49        | 21.88                   | 21.83       | 22.02     | 22.50         |
|           |            | 25      | 0         | 20.81                   | 20.86       | 20.76     | 21.50         |
|           |            | 25      | 13        | 20.72                   | 20.83       | 20.85     | 21.50         |
|           |            | 25      | 25        | 20.88                   | 20.87       | 20.78     | 21.50         |
|           |            | 50      | 0         | 20.83                   | 20.82       | 20.76     | 21.50         |
|           | 64QAM      | 1       | 0         | 21.06                   | 21.02       | 21.18     | 21.50         |
|           |            | 1       | 25        | 21.04                   | 21.11       | 21.03     | 21.50         |
|           |            | 1       | 49        | 21.08                   | 21.01       | 21.11     | 21.50         |
|           |            | 25      | 0         | 20.22                   | 20.33       | 20.46     | 20.50         |
|           |            | 25      | 13        | 20.29                   | 20.26       | 20.30     | 20.50         |
|           |            | 25      | 25        | 20.34                   | 20.40       | 20.35     | 20.50         |
|           |            | 50      | 0         | 20.30                   | 20.31       | 20.38     | 20.50         |

| LTE FDD Band 12<br>(REC On+Left Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |             |             |               |
|------------------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
| Bandwidth                                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                                |            |         |           | 23017/699.7             | 23095/707.5 | 23173/715.3 |               |
| 1.4MHz                                         | QPSK       | 1       | 0         | 18.78                   | 18.90       | 19.06       | 19.50         |
|                                                |            | 1       | 2         | 18.77                   | 18.86       | 18.87       | 19.50         |
|                                                |            | 1       | 5         | 19.06                   | 19.02       | 19.05       | 19.50         |
|                                                |            | 3       | 0         | 18.90                   | 18.93       | 18.93       | 19.50         |
|                                                |            | 3       | 2         | 18.81                   | 18.97       | 18.99       | 19.50         |
|                                                |            | 3       | 3         | 18.99                   | 18.95       | 18.96       | 19.50         |
|                                                |            | 6       | 0         | 18.80                   | 18.95       | 18.90       | 19.50         |
|                                                | 16QAM      | 1       | 0         | 18.82                   | 18.69       | 18.86       | 19.50         |
|                                                |            | 1       | 2         | 18.66                   | 18.80       | 18.74       | 19.50         |
|                                                |            | 1       | 5         | 18.74                   | 18.85       | 18.82       | 19.50         |
|                                                |            | 3       | 0         | 18.76                   | 18.72       | 18.72       | 19.50         |
|                                                |            | 3       | 2         | 18.81                   | 18.74       | 18.78       | 19.50         |



|           |            | 3       | 3         | 18.78                   | 18.84       | 18.89       | 19.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 6       | 0         | 18.86                   | 18.82       | 18.85       | 19.50         |
|           | 64QAM      | 1       | 0         | 18.89                   | 18.97       | 18.82       | 19.50         |
|           |            | 1       | 2         | 18.77                   | 18.59       | 18.66       | 19.50         |
|           |            | 1       | 5         | 18.70                   | 18.75       | 18.69       | 19.50         |
|           |            | 3       | 0         | 18.78                   | 18.64       | 18.73       | 19.50         |
|           |            | 3       | 2         | 18.82                   | 18.72       | 18.63       | 19.50         |
|           |            | 3       | 3         | 18.66                   | 18.71       | 18.70       | 19.50         |
|           |            | 6       | 0         | 18.74                   | 18.80       | 18.72       | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 23025/700.5             | 23095/707.5 | 23165/714.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 18.80                   | 18.91       | 19.09       | 19.50         |
|           |            | 1       | 7         | 18.80                   | 18.91       | 18.91       | 19.50         |
|           |            | 1       | 14        | 19.08                   | 19.06       | 19.08       | 19.50         |
|           |            | 8       | 0         | 18.93                   | 18.98       | 18.97       | 19.50         |
|           |            | 8       | 4         | 18.84                   | 19.02       | 19.03       | 19.50         |
|           |            | 8       | 7         | 19.01                   | 18.99       | 19.01       | 19.50         |
|           |            | 15      | 0         | 18.88                   | 18.97       | 18.94       | 19.50         |
|           | 16QAM      | 1       | 0         | 18.84                   | 18.72       | 18.88       | 19.50         |
|           |            | 1       | 7         | 18.69                   | 18.84       | 18.77       | 19.50         |
|           |            | 1       | 14        | 18.77                   | 18.87       | 18.85       | 19.50         |
|           |            | 8       | 0         | 18.79                   | 18.77       | 18.76       | 19.50         |
|           |            | 8       | 4         | 18.83                   | 18.78       | 18.81       | 19.50         |
|           |            | 8       | 7         | 18.81                   | 18.89       | 18.93       | 19.50         |
|           |            | 15      | 0         | 18.89                   | 18.87       | 18.89       | 19.50         |
|           | 64QAM      | 1       | 0         | 18.91                   | 19.00       | 18.84       | 19.50         |
|           |            | 1       | 7         | 18.80                   | 18.63       | 18.69       | 19.50         |
|           |            | 1       | 14        | 18.73                   | 18.77       | 18.72       | 19.50         |
|           |            | 8       | 0         | 18.81                   | 18.69       | 18.77       | 19.50         |
|           |            | 8       | 4         | 18.84                   | 18.76       | 18.66       | 19.50         |
|           |            | 8       | 7         | 18.69                   | 18.76       | 18.74       | 19.50         |
|           |            | 15      | 0         | 18.77                   | 18.85       | 18.76       | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 23035/701.5             | 23095/707.5 | 23155/713.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 18.79                   | 18.87       | 19.07       | 19.50         |
|           |            | 1       | 13        | 18.78                   | 18.90       | 18.88       | 19.50         |
|           |            | 1       | 24        | 19.05                   | 19.01       | 19.04       | 19.50         |
|           |            | 12      | 0         | 18.91                   | 18.94       | 18.94       | 19.50         |
|           |            | 12      | 6         | 18.81                   | 18.97       | 18.99       | 19.50         |
|           |            | 12      | 13        | 18.98                   | 18.96       | 18.97       | 19.50         |
|           |            | 25      | 0         | 18.86                   | 18.93       | 18.89       | 19.50         |
|           | 16QAM      | 1       | 0         | 18.79                   | 18.70       | 18.86       | 19.50         |
|           |            | 1       | 13        | 18.67                   | 18.81       | 18.75       | 19.50         |



|           |            | 1       | 24        | 18.74                   | 18.83       | 18.82     | 19.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-----------|---------------|
|           |            | 12      | 0         | 18.76                   | 18.75       | 18.73     | 19.50         |
|           |            | 12      | 6         | 18.80                   | 18.73       | 18.77     | 19.50         |
|           |            | 12      | 13        | 18.79                   | 18.85       | 18.90     | 19.50         |
|           |            | 25      | 0         | 18.86                   | 18.82       | 18.85     | 19.50         |
|           | 64QAM      | 1       | 0         | 18.86                   | 18.98       | 18.82     | 19.50         |
|           |            | 1       | 13        | 18.78                   | 18.60       | 18.67     | 19.50         |
|           |            | 1       | 24        | 18.70                   | 18.73       | 18.69     | 19.50         |
|           |            | 12      | 0         | 18.78                   | 18.67       | 18.74     | 19.50         |
|           |            | 12      | 6         | 18.81                   | 18.71       | 18.62     | 19.50         |
|           |            | 12      | 13        | 18.67                   | 18.72       | 18.71     | 19.50         |
|           |            | 25      | 0         | 18.74                   | 18.80       | 18.72     | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |           | Tune-up Limit |
|           |            |         |           | 23060/704               | 23095/707.5 | 23130/711 |               |
| 10MHz     | QPSK       | 1       | 0         | 18.76                   | 18.83       | 19.04     | 19.50         |
|           |            | 1       | 25        | 18.77                   | 18.86       | 18.86     | 19.50         |
|           |            | 1       | 49        | 19.03                   | 19.00       | 19.01     | 19.50         |
|           |            | 25      | 0         | 18.88                   | 18.89       | 18.90     | 19.50         |
|           |            | 25      | 13        | 18.79                   | 18.93       | 18.96     | 19.50         |
|           |            | 25      | 25        | 18.95                   | 18.91       | 18.93     | 19.50         |
|           |            | 50      | 0         | 18.83                   | 18.88       | 18.85     | 19.50         |
|           | 16QAM      | 1       | 0         | 18.77                   | 18.66       | 18.81     | 19.50         |
|           |            | 1       | 25        | 18.63                   | 18.79       | 18.71     | 19.50         |
|           |            | 1       | 49        | 18.72                   | 18.80       | 18.80     | 19.50         |
|           |            | 25      | 0         | 18.73                   | 18.71       | 18.70     | 19.50         |
|           |            | 25      | 13        | 18.77                   | 18.71       | 18.74     | 19.50         |
|           |            | 25      | 25        | 18.76                   | 18.80       | 18.86     | 19.50         |
|           |            | 50      | 0         | 18.84                   | 18.78       | 18.82     | 19.50         |
|           | 64QAM      | 1       | 0         | 18.84                   | 18.94       | 18.77     | 19.50         |
|           |            | 1       | 25        | 18.74                   | 18.58       | 18.63     | 19.50         |
|           |            | 1       | 49        | 18.68                   | 18.70       | 18.67     | 19.50         |
|           |            | 25      | 0         | 18.75                   | 18.63       | 18.71     | 19.50         |
|           |            | 25      | 13        | 18.78                   | 18.69       | 18.59     | 19.50         |
|           |            | 25      | 25        | 18.64                   | 18.67       | 18.67     | 19.50         |
|           |            | 50      | 0         | 18.72                   | 18.76       | 18.69     | 19.50         |

| LTE FDD Band 12<br>(REC On+Right Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |             |             |               |
|-------------------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
| Bandwidth                                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                                 |            |         |           | 23017/699.7             | 23095/707.5 | 23173/715.3 |               |
| 1.4MHz                                          | QPSK       | 1       | 0         | 18.74                   | 18.81       | 18.85       | 19.50         |
|                                                 |            | 1       | 2         | 18.66                   | 18.75       | 18.76       | 19.50         |
|                                                 |            | 1       | 5         | 18.83                   | 18.79       | 18.82       | 19.50         |



|           |            | 3       | 0         | 18.67                   | 18.80       | 18.80       | 19.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 3       | 2         | 18.63                   | 18.81       | 18.82       | 19.50         |
|           |            | 3       | 3         | 18.73                   | 18.77       | 18.70       | 19.50         |
|           |            | 6       | 0         | 18.68                   | 18.81       | 18.76       | 19.50         |
|           | 16QAM      | 1       | 0         | 18.92                   | 18.79       | 18.96       | 19.50         |
|           |            | 1       | 2         | 18.68                   | 18.82       | 18.76       | 19.50         |
|           |            | 1       | 5         | 18.83                   | 18.94       | 18.91       | 19.50         |
|           |            | 3       | 0         | 18.83                   | 18.79       | 18.79       | 19.50         |
|           |            | 3       | 2         | 18.79                   | 18.72       | 18.76       | 19.50         |
|           |            | 3       | 3         | 18.76                   | 18.82       | 18.87       | 19.50         |
|           |            | 6       | 0         | 18.77                   | 18.73       | 18.76       | 19.50         |
|           | 64QAM      | 1       | 0         | 18.74                   | 18.82       | 18.67       | 19.50         |
|           |            | 1       | 2         | 18.80                   | 18.62       | 18.69       | 19.50         |
|           |            | 1       | 5         | 18.80                   | 18.85       | 18.79       | 19.50         |
|           |            | 3       | 0         | 18.94                   | 18.80       | 18.89       | 19.50         |
|           |            | 3       | 2         | 18.88                   | 18.78       | 18.69       | 19.50         |
|           |            | 3       | 3         | 18.66                   | 18.71       | 18.70       | 19.50         |
|           |            | 6       | 0         | 18.62                   | 18.68       | 18.60       | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 23025/700.5             | 23095/707.5 | 23165/714.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 18.76                   | 18.82       | 18.88       | 19.50         |
|           |            | 1       | 7         | 18.69                   | 18.80       | 18.80       | 19.50         |
|           |            | 1       | 14        | 18.85                   | 18.83       | 18.85       | 19.50         |
|           |            | 8       | 0         | 18.70                   | 18.85       | 18.84       | 19.50         |
|           |            | 8       | 4         | 18.66                   | 18.86       | 18.86       | 19.50         |
|           |            | 8       | 7         | 18.75                   | 18.81       | 18.75       | 19.50         |
|           |            | 15      | 0         | 18.76                   | 18.83       | 18.80       | 19.50         |
|           | 16QAM      | 1       | 0         | 18.94                   | 18.82       | 18.98       | 19.50         |
|           |            | 1       | 7         | 18.71                   | 18.86       | 18.79       | 19.50         |
|           |            | 1       | 14        | 18.86                   | 18.96       | 18.94       | 19.50         |
|           |            | 8       | 0         | 18.86                   | 18.84       | 18.83       | 19.50         |
|           |            | 8       | 4         | 18.81                   | 18.76       | 18.79       | 19.50         |
|           |            | 8       | 7         | 18.79                   | 18.87       | 18.91       | 19.50         |
|           |            | 15      | 0         | 18.80                   | 18.78       | 18.80       | 19.50         |
|           | 64QAM      | 1       | 0         | 18.76                   | 18.85       | 18.69       | 19.50         |
|           |            | 1       | 7         | 18.83                   | 18.66       | 18.72       | 19.50         |
|           |            | 1       | 14        | 18.83                   | 18.87       | 18.82       | 19.50         |
|           |            | 8       | 0         | 18.97                   | 18.85       | 18.93       | 19.50         |
|           |            | 8       | 4         | 18.90                   | 18.82       | 18.72       | 19.50         |
|           |            | 8       | 7         | 18.69                   | 18.76       | 18.74       | 19.50         |
|           |            | 15      | 0         | 18.65                   | 18.73       | 18.64       | 19.50         |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            |         |           | 23035/701.5             | 23095/707.5 | 23155/713.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 18.75                   | 18.78       | 18.86       | 19.50         |
|           |            | 1       | 13        | 18.67                   | 18.79       | 18.77       | 19.50         |
|           |            | 1       | 24        | 18.82                   | 18.78       | 18.81       | 19.50         |
|           |            | 12      | 0         | 18.68                   | 18.81       | 18.81       | 19.50         |
|           |            | 12      | 6         | 18.63                   | 18.81       | 18.82       | 19.50         |
|           |            | 12      | 13        | 18.72                   | 18.78       | 18.71       | 19.50         |
|           |            | 25      | 0         | 18.74                   | 18.79       | 18.75       | 19.50         |
|           | 16QAM      | 1       | 0         | 18.89                   | 18.80       | 18.96       | 19.50         |
|           |            | 1       | 13        | 18.69                   | 18.83       | 18.77       | 19.50         |
|           |            | 1       | 24        | 18.83                   | 18.92       | 18.91       | 19.50         |
|           |            | 12      | 0         | 18.83                   | 18.82       | 18.80       | 19.50         |
|           |            | 12      | 6         | 18.78                   | 18.71       | 18.75       | 19.50         |
|           |            | 12      | 13        | 18.77                   | 18.83       | 18.88       | 19.50         |
|           |            | 25      | 0         | 18.77                   | 18.73       | 18.76       | 19.50         |
|           | 64QAM      | 1       | 0         | 18.71                   | 18.83       | 18.67       | 19.50         |
|           |            | 1       | 13        | 18.81                   | 18.63       | 18.70       | 19.50         |
|           |            | 1       | 24        | 18.80                   | 18.83       | 18.79       | 19.50         |
|           |            | 12      | 0         | 18.94                   | 18.83       | 18.90       | 19.50         |
|           |            | 12      | 6         | 18.87                   | 18.77       | 18.68       | 19.50         |
|           |            | 12      | 13        | 18.67                   | 18.72       | 18.71       | 19.50         |
|           |            | 25      | 0         | 18.62                   | 18.68       | 18.60       | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 23060/704               | 23095/707.5 | 23130/711   |               |
| 10MHz     | QPSK       | 1       | 0         | 18.82                   | 18.84       | 18.93       | 19.50         |
|           |            | 1       | 25        | 18.76                   | 18.85       | 18.85       | 19.50         |
|           |            | 1       | 49        | 18.90                   | 18.87       | 18.88       | 19.50         |
|           |            | 25      | 0         | 18.75                   | 18.86       | 18.87       | 19.50         |
|           |            | 25      | 13        | 18.71                   | 18.87       | 18.89       | 19.50         |
|           |            | 25      | 25        | 18.79                   | 18.83       | 18.77       | 19.50         |
|           |            | 50      | 0         | 18.81                   | 18.84       | 18.81       | 19.50         |
|           | 16QAM      | 1       | 0         | 18.97                   | 18.86       | 19.01       | 19.50         |
|           |            | 1       | 25        | 18.75                   | 18.91       | 18.83       | 19.50         |
|           |            | 1       | 49        | 18.91                   | 18.99       | 18.99       | 19.50         |
|           |            | 25      | 0         | 18.90                   | 18.88       | 18.87       | 19.50         |
|           |            | 25      | 13        | 18.85                   | 18.79       | 18.82       | 19.50         |
|           |            | 25      | 25        | 18.84                   | 18.88       | 18.94       | 19.50         |
|           |            | 50      | 0         | 18.85                   | 18.79       | 18.83       | 19.50         |
|           | 64QAM      | 1       | 0         | 18.69                   | 18.79       | 18.62       | 19.50         |
|           |            | 1       | 25        | 18.77                   | 18.61       | 18.66       | 19.50         |
|           |            | 1       | 49        | 18.78                   | 18.80       | 18.77       | 19.50         |
|           |            | 25      | 0         | 18.91                   | 18.79       | 18.87       | 19.50         |



|  |  |    |    |       |       |       |       |
|--|--|----|----|-------|-------|-------|-------|
|  |  | 25 | 13 | 18.84 | 18.75 | 18.65 | 19.50 |
|  |  | 25 | 25 | 18.64 | 18.67 | 18.67 | 19.50 |
|  |  | 50 | 0  | 18.60 | 18.64 | 18.57 | 19.50 |

| LTE FDD Band 12<br>(REC Off) |            |         |           | Conducted Power(dBm)    |             |             |                  |
|------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|------------------|
| Bandwidth                    | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                              |            |         |           | 23017/699.7             | 23095/707.5 | 23173/715.3 |                  |
| 1.4MHz                       | QPSK       | 1       | 0         | 22.81                   | 22.82       | 22.85       | 23.50            |
|                              |            | 1       | 2         | 22.62                   | 22.75       | 22.76       | 23.50            |
|                              |            | 1       | 5         | 22.82                   | 22.82       | 22.78       | 23.50            |
|                              |            | 3       | 0         | 22.68                   | 22.88       | 22.87       | 23.50            |
|                              |            | 3       | 2         | 22.68                   | 22.90       | 22.92       | 23.50            |
|                              |            | 3       | 3         | 22.73                   | 22.84       | 22.92       | 23.50            |
|                              |            | 6       | 0         | 21.79                   | 21.88       | 21.86       | 22.50            |
|                              | 16QAM      | 1       | 0         | 21.98                   | 21.90       | 21.90       | 22.50            |
|                              |            | 1       | 2         | 22.05                   | 21.82       | 22.04       | 22.50            |
|                              |            | 1       | 5         | 21.89                   | 21.96       | 21.91       | 22.50            |
|                              |            | 3       | 0         | 21.70                   | 21.75       | 21.74       | 22.50            |
|                              |            | 3       | 2         | 21.71                   | 21.75       | 21.76       | 22.50            |
|                              |            | 3       | 3         | 21.67                   | 21.89       | 21.80       | 22.50            |
|                              |            | 6       | 0         | 20.67                   | 21.08       | 20.81       | 21.50            |
|                              | 64QAM      | 1       | 0         | 21.29                   | 21.29       | 21.33       | 21.50            |
|                              |            | 1       | 2         | 21.19                   | 21.16       | 21.21       | 21.50            |
|                              |            | 1       | 5         | 21.44                   | 21.15       | 21.27       | 21.50            |
|                              |            | 3       | 0         | 21.15                   | 21.24       | 21.22       | 21.50            |
|                              |            | 3       | 2         | 21.33                   | 21.18       | 21.22       | 21.50            |
|                              |            | 3       | 3         | 21.28                   | 21.33       | 21.29       | 21.50            |
|                              |            | 6       | 0         | 20.21                   | 20.38       | 20.38       | 20.50            |
| Bandwidth                    | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                              |            |         |           | 23025/700.5             | 23095/707.5 | 23165/714.5 |                  |
| 3MHz                         | QPSK       | 1       | 0         | 22.82                   | 22.85       | 22.87       | 23.50            |
|                              |            | 1       | 7         | 22.66                   | 22.81       | 22.81       | 23.50            |
|                              |            | 1       | 14        | 22.84                   | 22.86       | 22.81       | 23.50            |
|                              |            | 8       | 0         | 21.78                   | 22.00       | 22.00       | 22.50            |
|                              |            | 8       | 4         | 21.81                   | 22.01       | 22.03       | 22.50            |
|                              |            | 8       | 7         | 21.83                   | 21.97       | 22.03       | 22.50            |
|                              |            | 15      | 0         | 21.88                   | 21.93       | 21.91       | 22.50            |
|                              | 16QAM      | 1       | 0         | 22.00                   | 21.91       | 21.92       | 22.50            |
|                              |            | 1       | 7         | 22.08                   | 21.89       | 22.08       | 22.50            |
|                              |            | 1       | 14        | 21.91                   | 22.00       | 21.93       | 22.50            |
|                              |            | 8       | 0         | 20.82                   | 20.89       | 20.87       | 21.50            |
|                              |            | 8       | 4         | 20.81                   | 20.87       | 20.87       | 21.50            |



|           |            | 8       | 7         | 20.77                   | 21.01       | 20.93       | 21.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 15      | 0         | 20.71                   | 21.13       | 20.83       | 21.50         |
|           | 64QAM      | 1       | 0         | 21.31                   | 21.30       | 21.35       | 21.50         |
|           |            | 1       | 7         | 21.22                   | 21.23       | 21.25       | 21.50         |
|           |            | 1       | 14        | 21.46                   | 21.19       | 21.29       | 21.50         |
|           |            | 8       | 0         | 20.27                   | 20.38       | 20.35       | 20.50         |
|           |            | 8       | 4         | 20.43                   | 20.30       | 20.33       | 20.50         |
|           |            | 8       | 7         | 20.38                   | 20.45       | 20.42       | 20.50         |
|           |            | 15      | 0         | 20.25                   | 20.43       | 20.40       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 23035/701.5             | 23095/707.5 | 23155/713.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 22.81                   | 22.81       | 22.85       | 23.50         |
|           |            | 1       | 13        | 22.64                   | 22.80       | 22.78       | 23.50         |
|           |            | 1       | 24        | 22.81                   | 22.81       | 22.77       | 23.50         |
|           |            | 12      | 0         | 21.76                   | 21.96       | 21.97       | 22.50         |
|           |            | 12      | 6         | 21.78                   | 21.96       | 21.99       | 22.50         |
|           |            | 12      | 13        | 21.80                   | 21.94       | 21.99       | 22.50         |
|           |            | 25      | 0         | 21.86                   | 21.89       | 21.86       | 22.50         |
|           | 16QAM      | 1       | 0         | 21.95                   | 21.89       | 21.90       | 22.50         |
|           |            | 1       | 13        | 22.06                   | 21.86       | 22.06       | 22.50         |
|           |            | 1       | 24        | 21.88                   | 21.96       | 21.90       | 22.50         |
|           |            | 12      | 0         | 20.79                   | 20.87       | 20.84       | 21.50         |
|           |            | 12      | 6         | 20.78                   | 20.82       | 20.83       | 21.50         |
|           |            | 12      | 13        | 20.75                   | 20.97       | 20.90       | 21.50         |
|           |            | 25      | 0         | 20.68                   | 21.08       | 20.79       | 21.50         |
|           | 64QAM      | 1       | 0         | 21.26                   | 21.28       | 21.33       | 21.50         |
|           |            | 1       | 13        | 21.20                   | 21.20       | 21.23       | 21.50         |
|           |            | 1       | 24        | 21.43                   | 21.15       | 21.26       | 21.50         |
|           |            | 12      | 0         | 20.24                   | 20.36       | 20.32       | 20.50         |
|           |            | 12      | 6         | 20.40                   | 20.25       | 20.29       | 20.50         |
|           |            | 12      | 13        | 20.36                   | 20.41       | 20.39       | 20.50         |
|           |            | 25      | 0         | 20.22                   | 20.38       | 20.36       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 23060/704               | 23095/707.5 | 23130/711   |               |
| 10MHz     | QPSK       | 1       | 0         | 22.78                   | 22.77       | 22.82       | 23.50         |
|           |            | 1       | 25        | 22.63                   | 22.76       | 22.76       | 23.50         |
|           |            | 1       | 49        | 22.79                   | 22.80       | 22.74       | 23.50         |
|           |            | 25      | 0         | 21.73                   | 21.91       | 21.93       | 22.50         |
|           |            | 25      | 13        | 21.76                   | 21.92       | 21.96       | 22.50         |
|           |            | 25      | 25        | 21.77                   | 21.89       | 21.95       | 22.50         |
|           |            | 50      | 0         | 21.83                   | 21.84       | 21.82       | 22.50         |
|           | 16QAM      | 1       | 0         | 21.93                   | 21.85       | 21.85       | 22.50         |
|           |            | 1       | 25        | 22.02                   | 21.84       | 22.02       | 22.50         |





|  |       |    |    |       |       |       |       |
|--|-------|----|----|-------|-------|-------|-------|
|  |       | 1  | 49 | 21.86 | 21.93 | 21.88 | 22.50 |
|  |       | 25 | 0  | 20.76 | 20.83 | 20.81 | 21.50 |
|  |       | 25 | 13 | 20.75 | 20.80 | 20.80 | 21.50 |
|  |       | 25 | 25 | 20.72 | 20.92 | 20.86 | 21.50 |
|  |       | 50 | 0  | 20.66 | 21.04 | 20.76 | 21.50 |
|  | 64QAM | 1  | 0  | 21.24 | 21.24 | 21.28 | 21.50 |
|  |       | 1  | 25 | 21.16 | 21.18 | 21.19 | 21.50 |
|  |       | 1  | 49 | 21.41 | 21.12 | 21.24 | 21.50 |
|  |       | 25 | 0  | 20.21 | 20.32 | 20.29 | 20.50 |
|  |       | 25 | 13 | 20.37 | 20.23 | 20.26 | 20.50 |
|  |       | 25 | 25 | 20.33 | 20.36 | 20.35 | 20.50 |
|  |       | 50 | 0  | 20.20 | 20.34 | 20.33 | 20.50 |

| LTE FDD Band 12<br>(REC Off+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |             |             |                  |
|---------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|------------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                       |            |         |           | 23017/699.7             | 23095/707.5 | 23173/715.3 |                  |
| 1.4MHz                                | QPSK       | 1       | 0         | 19.79                   | 19.91       | 19.93       | 20.50            |
|                                       |            | 1       | 2         | 19.81                   | 19.83       | 19.91       | 20.50            |
|                                       |            | 1       | 5         | 19.93                   | 19.90       | 19.93       | 20.50            |
|                                       |            | 3       | 0         | 19.77                   | 19.80       | 19.80       | 20.50            |
|                                       |            | 3       | 2         | 19.69                   | 19.85       | 19.89       | 20.50            |
|                                       |            | 3       | 3         | 19.80                   | 19.82       | 19.75       | 20.50            |
|                                       |            | 6       | 0         | 19.75                   | 19.86       | 19.75       | 20.50            |
|                                       | 16QAM      | 1       | 0         | 19.87                   | 19.74       | 19.91       | 20.50            |
|                                       |            | 1       | 2         | 19.64                   | 19.78       | 19.72       | 20.50            |
|                                       |            | 1       | 5         | 19.79                   | 19.90       | 19.87       | 20.50            |
|                                       |            | 3       | 0         | 19.80                   | 19.76       | 19.76       | 20.50            |
|                                       |            | 3       | 2         | 19.82                   | 19.75       | 19.79       | 20.50            |
|                                       |            | 3       | 3         | 19.68                   | 19.74       | 19.79       | 20.50            |
|                                       |            | 6       | 0         | 19.76                   | 19.72       | 19.75       | 20.50            |
|                                       | 64QAM      | 1       | 0         | 19.77                   | 19.85       | 19.70       | 20.50            |
|                                       |            | 1       | 2         | 19.91                   | 19.73       | 19.80       | 20.50            |
|                                       |            | 1       | 5         | 19.81                   | 19.86       | 19.80       | 20.50            |
|                                       |            | 3       | 0         | 19.76                   | 19.62       | 19.71       | 20.50            |
|                                       |            | 3       | 2         | 19.78                   | 19.68       | 19.59       | 20.50            |
|                                       |            | 3       | 3         | 19.72                   | 19.77       | 19.76       | 20.50            |
|                                       |            | 6       | 0         | 19.66                   | 19.72       | 19.64       | 20.50            |
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                       |            |         |           | 23025/700.5             | 23095/707.5 | 23165/714.5 |                  |
| 3MHz                                  | QPSK       | 1       | 0         | 19.81                   | 19.92       | 19.96       | 20.50            |
|                                       |            | 1       | 7         | 19.84                   | 19.88       | 19.95       | 20.50            |
|                                       |            | 1       | 14        | 19.95                   | 19.94       | 19.96       | 20.50            |



|           |            | 8       | 0         | 19.80                   | 19.85       | 19.84       | 20.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 8       | 4         | 19.72                   | 19.90       | 19.93       | 20.50         |
|           |            | 8       | 7         | 19.82                   | 19.86       | 19.80       | 20.50         |
|           |            | 15      | 0         | 19.83                   | 19.88       | 19.79       | 20.50         |
|           | 16QAM      | 1       | 0         | 19.89                   | 19.77       | 19.93       | 20.50         |
|           |            | 1       | 7         | 19.67                   | 19.82       | 19.75       | 20.50         |
|           |            | 1       | 14        | 19.82                   | 19.92       | 19.90       | 20.50         |
|           |            | 8       | 0         | 19.83                   | 19.81       | 19.80       | 20.50         |
|           |            | 8       | 4         | 19.84                   | 19.79       | 19.82       | 20.50         |
|           |            | 8       | 7         | 19.71                   | 19.79       | 19.83       | 20.50         |
|           |            | 15      | 0         | 19.79                   | 19.77       | 19.79       | 20.50         |
|           | 64QAM      | 1       | 0         | 19.79                   | 19.88       | 19.72       | 20.50         |
|           |            | 1       | 7         | 19.94                   | 19.77       | 19.83       | 20.50         |
|           |            | 1       | 14        | 19.84                   | 19.88       | 19.83       | 20.50         |
|           |            | 8       | 0         | 19.79                   | 19.67       | 19.75       | 20.50         |
|           |            | 8       | 4         | 19.80                   | 19.72       | 19.62       | 20.50         |
|           |            | 8       | 7         | 19.75                   | 19.82       | 19.80       | 20.50         |
|           |            | 15      | 0         | 19.69                   | 19.77       | 19.68       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 23035/701.5             | 23095/707.5 | 23155/713.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 19.80                   | 19.88       | 19.94       | 20.50         |
|           |            | 1       | 13        | 19.82                   | 19.87       | 19.92       | 20.50         |
|           |            | 1       | 24        | 19.92                   | 19.89       | 19.92       | 20.50         |
|           |            | 12      | 0         | 19.78                   | 19.81       | 19.81       | 20.50         |
|           |            | 12      | 6         | 19.69                   | 19.85       | 19.89       | 20.50         |
|           |            | 12      | 13        | 19.79                   | 19.83       | 19.76       | 20.50         |
|           |            | 25      | 0         | 19.81                   | 19.84       | 19.74       | 20.50         |
|           | 16QAM      | 1       | 0         | 19.84                   | 19.75       | 19.91       | 20.50         |
|           |            | 1       | 13        | 19.65                   | 19.79       | 19.73       | 20.50         |
|           |            | 1       | 24        | 19.79                   | 19.88       | 19.87       | 20.50         |
|           |            | 12      | 0         | 19.80                   | 19.79       | 19.77       | 20.50         |
|           |            | 12      | 6         | 19.81                   | 19.74       | 19.78       | 20.50         |
|           |            | 12      | 13        | 19.69                   | 19.75       | 19.80       | 20.50         |
|           |            | 25      | 0         | 19.76                   | 19.72       | 19.75       | 20.50         |
|           | 64QAM      | 1       | 0         | 19.74                   | 19.86       | 19.70       | 20.50         |
|           |            | 1       | 13        | 19.92                   | 19.74       | 19.81       | 20.50         |
|           |            | 1       | 24        | 19.81                   | 19.84       | 19.80       | 20.50         |
|           |            | 12      | 0         | 19.76                   | 19.65       | 19.72       | 20.50         |
|           |            | 12      | 6         | 19.77                   | 19.67       | 19.58       | 20.50         |
|           |            | 12      | 13        | 19.73                   | 19.78       | 19.77       | 20.50         |
|           |            | 25      | 0         | 19.66                   | 19.72       | 19.64       | 20.50         |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |           | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|-------------|-----------|---------------|
|           |            |         |           | 23060/704               | 23095/707.5 | 23130/711 |               |
| 10MHz     | QPSK       | 1       | 0         | 19.87                   | 19.94       | 20.01     | 20.50         |
|           |            | 1       | 25        | 19.91                   | 19.93       | 20.00     | 20.50         |
|           |            | 1       | 49        | 20.00                   | 19.98       | 19.99     | 20.50         |
|           |            | 25      | 0         | 19.85                   | 19.86       | 19.87     | 20.50         |
|           |            | 25      | 13        | 19.77                   | 19.91       | 19.96     | 20.50         |
|           |            | 25      | 25        | 19.86                   | 19.88       | 19.82     | 20.50         |
|           |            | 50      | 0         | 19.88                   | 19.89       | 19.80     | 20.50         |
|           | 16QAM      | 1       | 0         | 19.92                   | 19.81       | 19.96     | 20.50         |
|           |            | 1       | 25        | 19.71                   | 19.87       | 19.79     | 20.50         |
|           |            | 1       | 49        | 19.87                   | 19.95       | 19.95     | 20.50         |
|           |            | 25      | 0         | 19.87                   | 19.85       | 19.84     | 20.50         |
|           |            | 25      | 13        | 19.88                   | 19.82       | 19.85     | 20.50         |
|           |            | 25      | 25        | 19.76                   | 19.80       | 19.86     | 20.50         |
|           |            | 50      | 0         | 19.84                   | 19.78       | 19.82     | 20.50         |
|           | 64QAM      | 1       | 0         | 19.72                   | 19.82       | 19.65     | 20.50         |
|           |            | 1       | 25        | 19.88                   | 19.72       | 19.77     | 20.50         |
|           |            | 1       | 49        | 19.79                   | 19.81       | 19.78     | 20.50         |
|           |            | 25      | 0         | 19.73                   | 19.61       | 19.69     | 20.50         |
|           |            | 25      | 13        | 19.74                   | 19.65       | 19.55     | 20.50         |
|           |            | 25      | 25        | 19.70                   | 19.73       | 19.73     | 20.50         |
|           |            | 50      | 0         | 19.64                   | 19.68       | 19.61     | 20.50         |

| LTE FDD Band 17<br>(REC On+Left Head) |            |         |           | Conducted Power(dBm)    |           |             |               |
|---------------------------------------|------------|---------|-----------|-------------------------|-----------|-------------|---------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |             | Tune-up Limit |
|                                       |            |         |           | 23755/706.5             | 23790/710 | 23825/713.5 |               |
| 5MHz                                  | QPSK       | 1       | 0         | 21.77                   | 21.77     | 21.74       | 22.50         |
|                                       |            | 1       | 13        | 21.61                   | 21.78     | 21.81       | 22.50         |
|                                       |            | 1       | 24        | 21.93                   | 21.82     | 21.91       | 22.50         |
|                                       |            | 12      | 0         | 21.66                   | 21.77     | 21.77       | 22.50         |
|                                       |            | 12      | 6         | 21.68                   | 21.79     | 21.82       | 22.50         |
|                                       |            | 12      | 13        | 21.78                   | 21.83     | 21.81       | 22.50         |
|                                       |            | 25      | 0         | 21.60                   | 21.82     | 21.78       | 22.50         |
|                                       | 16QAM      | 1       | 0         | 22.02                   | 21.92     | 22.12       | 22.50         |
|                                       |            | 1       | 13        | 21.95                   | 21.87     | 21.92       | 22.50         |
|                                       |            | 1       | 24        | 21.85                   | 21.81     | 21.99       | 22.50         |
|                                       |            | 12      | 0         | 20.69                   | 20.75     | 20.64       | 21.50         |
|                                       |            | 12      | 6         | 20.61                   | 20.71     | 20.74       | 21.50         |
|                                       |            | 12      | 13        | 20.78                   | 20.79     | 20.69       | 21.50         |
|                                       |            | 25      | 0         | 20.69                   | 20.70     | 20.63       | 21.50         |
|                                       | 64QAM      | 1       | 0         | 21.23                   | 21.21     | 21.38       | 21.50         |



|           |            | 1       | 13        | 21.12                   | 21.17     | 21.11     | 21.50         |
|-----------|------------|---------|-----------|-------------------------|-----------|-----------|---------------|
|           |            | 1       | 24        | 21.17                   | 21.11     | 21.20     | 21.50         |
|           |            | 12      | 0         | 20.27                   | 20.39     | 20.31     | 20.50         |
|           |            | 12      | 6         | 20.29                   | 20.25     | 20.30     | 20.50         |
|           |            | 12      | 13        | 20.19                   | 20.27     | 20.21     | 20.50         |
|           |            | 25      | 0         | 20.32                   | 20.35     | 20.41     | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |           | Tune-up Limit |
|           |            |         |           | 23780/709               | 23790/710 | 23800/711 |               |
| 10MHz     | QPSK       | 1       | 0         | 21.74                   | 21.73     | 21.71     | 22.50         |
|           |            | 1       | 25        | 21.60                   | 21.74     | 21.79     | 22.50         |
|           |            | 1       | 49        | 21.91                   | 21.81     | 21.88     | 22.50         |
|           |            | 25      | 0         | 21.63                   | 21.72     | 21.73     | 22.50         |
|           |            | 25      | 13        | 21.66                   | 21.75     | 21.79     | 22.50         |
|           |            | 25      | 25        | 21.75                   | 21.78     | 21.77     | 22.50         |
|           |            | 50      | 0         | 21.57                   | 21.77     | 21.74     | 22.50         |
|           | 16QAM      | 1       | 0         | 22.00                   | 21.88     | 22.07     | 22.50         |
|           |            | 1       | 25        | 21.91                   | 21.85     | 21.88     | 22.50         |
|           |            | 1       | 49        | 21.83                   | 21.78     | 21.97     | 22.50         |
|           |            | 25      | 0         | 20.66                   | 20.71     | 20.61     | 21.50         |
|           |            | 25      | 13        | 20.58                   | 20.69     | 20.71     | 21.50         |
|           |            | 25      | 25        | 20.75                   | 20.74     | 20.65     | 21.50         |
|           |            | 50      | 0         | 20.67                   | 20.66     | 20.60     | 21.50         |
|           | 64QAM      | 1       | 0         | 21.21                   | 21.17     | 21.33     | 21.50         |
|           |            | 1       | 25        | 21.08                   | 21.15     | 21.07     | 21.50         |
|           |            | 1       | 49        | 21.15                   | 21.08     | 21.18     | 21.50         |
|           |            | 25      | 0         | 20.24                   | 20.35     | 20.48     | 20.50         |
|           |            | 25      | 13        | 20.26                   | 20.23     | 20.27     | 20.50         |
|           |            | 25      | 25        | 20.16                   | 20.22     | 20.17     | 20.50         |
|           |            | 50      | 0         | 20.30                   | 20.31     | 20.38     | 20.50         |

| LTE FDD Band 17<br>(REC On+Right Head) |            |         |           | Conducted Power(dBm)    |           |             |               |
|----------------------------------------|------------|---------|-----------|-------------------------|-----------|-------------|---------------|
| Bandwidth                              | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |             | Tune-up Limit |
|                                        |            |         |           | 23755/706.5             | 23790/710 | 23825/713.5 |               |
| 5MHz                                   | QPSK       | 1       | 0         | 21.77                   | 21.77     | 21.70       | 22.50         |
|                                        |            | 1       | 13        | 21.66                   | 21.83     | 21.86       | 22.50         |
|                                        |            | 1       | 24        | 21.93                   | 21.81     | 21.88       | 22.50         |
|                                        |            | 12      | 0         | 21.68                   | 21.79     | 21.79       | 22.50         |
|                                        |            | 12      | 6         | 21.71                   | 21.82     | 21.83       | 22.50         |
|                                        |            | 12      | 13        | 21.79                   | 21.85     | 21.84       | 22.50         |
|                                        |            | 25      | 0         | 21.50                   | 21.72     | 21.68       | 22.50         |
|                                        | 16QAM      | 1       | 0         | 21.86                   | 21.76     | 21.96       | 22.50         |
|                                        |            | 1       | 13        | 21.83                   | 21.75     | 21.80       | 22.50         |



|           |            | 1       | 24        | 21.88                   | 21.84     | 22.02     | 22.50         |
|-----------|------------|---------|-----------|-------------------------|-----------|-----------|---------------|
|           |            | 12      | 0         | 20.67                   | 20.73     | 20.62     | 21.50         |
|           |            | 12      | 6         | 20.64                   | 20.74     | 20.77     | 21.50         |
|           |            | 12      | 13        | 20.82                   | 20.83     | 20.73     | 21.50         |
|           |            | 25      | 0         | 20.63                   | 20.64     | 20.57     | 21.50         |
|           | 64QAM      | 1       | 0         | 21.27                   | 21.25     | 21.42     | 21.50         |
|           |            | 1       | 13        | 21.02                   | 21.07     | 21.01     | 21.50         |
|           |            | 1       | 24        | 21.35                   | 21.29     | 21.38     | 21.50         |
|           |            | 12      | 0         | 20.25                   | 20.37     | 20.49     | 20.50         |
|           |            | 12      | 6         | 20.35                   | 20.31     | 20.36     | 20.50         |
|           |            | 12      | 13        | 20.31                   | 20.39     | 20.33     | 20.50         |
|           |            | 25      | 0         | 20.32                   | 20.35     | 20.41     | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |           | Tune-up Limit |
|           |            |         |           | 23780/709               | 23790/710 | 23800/711 |               |
| 10MHz     | QPSK       | 1       | 0         | 21.74                   | 21.73     | 21.67     | 22.50         |
|           |            | 1       | 25        | 21.65                   | 21.79     | 21.84     | 22.50         |
|           |            | 1       | 49        | 21.91                   | 21.80     | 21.85     | 22.50         |
|           |            | 25      | 0         | 21.65                   | 21.74     | 21.75     | 22.50         |
|           |            | 25      | 13        | 21.69                   | 21.78     | 21.80     | 22.50         |
|           |            | 25      | 25        | 21.76                   | 21.80     | 21.80     | 22.50         |
|           |            | 50      | 0         | 21.47                   | 21.67     | 21.64     | 22.50         |
|           | 16QAM      | 1       | 0         | 21.84                   | 21.72     | 21.91     | 22.50         |
|           |            | 1       | 25        | 21.79                   | 21.73     | 21.76     | 22.50         |
|           |            | 1       | 49        | 21.86                   | 21.81     | 22.00     | 22.50         |
|           |            | 25      | 0         | 20.64                   | 20.69     | 20.59     | 21.50         |
|           |            | 25      | 13        | 20.61                   | 20.72     | 20.74     | 21.50         |
|           |            | 25      | 25        | 20.79                   | 20.78     | 20.69     | 21.50         |
|           |            | 50      | 0         | 20.61                   | 20.60     | 20.54     | 21.50         |
|           | 64QAM      | 1       | 0         | 21.25                   | 21.21     | 21.37     | 21.50         |
|           |            | 1       | 25        | 20.98                   | 21.05     | 20.97     | 21.50         |
|           |            | 1       | 49        | 21.33                   | 21.26     | 21.36     | 21.50         |
|           |            | 25      | 0         | 20.22                   | 20.33     | 20.46     | 20.50         |
|           |            | 25      | 13        | 20.32                   | 20.29     | 20.33     | 20.50         |
|           |            | 25      | 25        | 20.28                   | 20.34     | 20.29     | 20.50         |
|           |            | 50      | 0         | 20.30                   | 20.31     | 20.38     | 20.50         |

| LTE FDD Band 17<br>(REC On+Left Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |           |             |               |
|------------------------------------------------|------------|---------|-----------|-------------------------|-----------|-------------|---------------|
| Bandwidth                                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |             | Tune-up Limit |
|                                                |            |         |           | 23755/706.5             | 23790/710 | 23825/713.5 |               |
| 5MHz                                           | QPSK       | 1       | 0         | 18.92                   | 18.84     | 18.82       | 19.50         |
|                                                |            | 1       | 13        | 18.75                   | 18.81     | 18.74       | 19.50         |
|                                                |            | 1       | 24        | 19.05                   | 18.82     | 18.83       | 19.50         |



|           |            | 12      | 0         | 18.76                   | 18.70     | 18.82     | 19.50         |
|-----------|------------|---------|-----------|-------------------------|-----------|-----------|---------------|
|           |            | 12      | 6         | 18.73                   | 18.87     | 18.88     | 19.50         |
|           |            | 12      | 13        | 18.80                   | 18.89     | 18.85     | 19.50         |
|           |            | 25      | 0         | 18.75                   | 18.88     | 18.86     | 19.50         |
|           | 16QAM      | 1       | 0         | 18.57                   | 18.83     | 18.69     | 19.50         |
|           |            | 1       | 13        | 18.82                   | 18.76     | 18.93     | 19.50         |
|           |            | 1       | 24        | 18.77                   | 18.85     | 18.91     | 19.50         |
|           |            | 12      | 0         | 18.78                   | 18.76     | 18.75     | 19.50         |
|           |            | 12      | 6         | 18.63                   | 18.66     | 18.73     | 19.50         |
|           |            | 12      | 13        | 18.77                   | 18.72     | 18.80     | 19.50         |
|           |            | 25      | 0         | 18.82                   | 18.73     | 18.85     | 19.50         |
|           | 64QAM      | 1       | 0         | 18.75                   | 18.67     | 18.63     | 19.50         |
|           |            | 1       | 13        | 18.86                   | 18.79     | 18.65     | 19.50         |
|           |            | 1       | 24        | 18.83                   | 18.76     | 18.82     | 19.50         |
|           |            | 12      | 0         | 18.78                   | 18.73     | 18.79     | 19.50         |
|           |            | 12      | 6         | 18.71                   | 18.70     | 18.65     | 19.50         |
|           |            | 12      | 13        | 18.66                   | 18.75     | 18.70     | 19.50         |
|           |            | 25      | 0         | 18.67                   | 18.71     | 18.68     | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |           | Tune-up Limit |
|           |            |         |           | 23780/709               | 23790/710 | 23800/711 |               |
| 10MHz     | QPSK       | 1       | 0         | 18.89                   | 18.80     | 18.79     | 19.50         |
|           |            | 1       | 25        | 18.74                   | 18.77     | 18.72     | 19.50         |
|           |            | 1       | 49        | 19.03                   | 18.81     | 18.80     | 19.50         |
|           |            | 25      | 0         | 18.73                   | 18.65     | 18.78     | 19.50         |
|           |            | 25      | 13        | 18.71                   | 18.83     | 18.85     | 19.50         |
|           |            | 25      | 25        | 18.77                   | 18.84     | 18.81     | 19.50         |
|           |            | 50      | 0         | 18.72                   | 18.83     | 18.82     | 19.50         |
|           | 16QAM      | 1       | 0         | 18.55                   | 18.79     | 18.64     | 19.50         |
|           |            | 1       | 25        | 18.78                   | 18.74     | 18.89     | 19.50         |
|           |            | 1       | 49        | 18.75                   | 18.82     | 18.89     | 19.50         |
|           |            | 25      | 0         | 18.75                   | 18.72     | 18.72     | 19.50         |
|           |            | 25      | 13        | 18.60                   | 18.64     | 18.70     | 19.50         |
|           |            | 25      | 25        | 18.74                   | 18.67     | 18.76     | 19.50         |
|           |            | 50      | 0         | 18.80                   | 18.69     | 18.82     | 19.50         |
|           | 64QAM      | 1       | 0         | 18.73                   | 18.63     | 18.58     | 19.50         |
|           |            | 1       | 25        | 18.82                   | 18.77     | 18.61     | 19.50         |
|           |            | 1       | 49        | 18.81                   | 18.73     | 18.80     | 19.50         |
|           |            | 25      | 0         | 18.75                   | 18.69     | 18.76     | 19.50         |
|           |            | 25      | 13        | 18.68                   | 18.68     | 18.62     | 19.50         |
|           |            | 25      | 25        | 18.63                   | 18.70     | 18.66     | 19.50         |
|           |            | 50      | 0         | 18.65                   | 18.67     | 18.65     | 19.50         |



| LTE FDD Band 17<br>(REC On+Right Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |           |             |               |
|-------------------------------------------------|------------|---------|-----------|-------------------------|-----------|-------------|---------------|
| Bandwidth                                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |             | Tune-up Limit |
|                                                 |            |         |           | 23755/706.5             | 23790/710 | 23825/713.5 |               |
| 5MHz                                            | QPSK       | 1       | 0         | 18.98                   | 18.94     | 18.92       | 19.50         |
|                                                 |            | 1       | 13        | 18.75                   | 18.78     | 18.74       | 19.50         |
|                                                 |            | 1       | 24        | 19.15                   | 18.92     | 18.95       | 19.50         |
|                                                 |            | 12      | 0         | 18.93                   | 18.87     | 18.84       | 19.50         |
|                                                 |            | 12      | 6         | 18.72                   | 18.86     | 18.99       | 19.50         |
|                                                 |            | 12      | 13        | 18.96                   | 18.89     | 18.87       | 19.50         |
|                                                 |            | 25      | 0         | 18.70                   | 18.91     | 18.88       | 19.50         |
|                                                 | 16QAM      | 1       | 0         | 18.64                   | 18.86     | 18.73       | 19.50         |
|                                                 |            | 1       | 13        | 18.89                   | 18.83     | 19.00       | 19.50         |
|                                                 |            | 1       | 24        | 18.70                   | 18.80     | 18.84       | 19.50         |
|                                                 |            | 12      | 0         | 18.77                   | 18.72     | 18.73       | 19.50         |
|                                                 |            | 12      | 6         | 18.79                   | 18.82     | 18.89       | 19.50         |
|                                                 |            | 12      | 13        | 18.95                   | 18.90     | 18.98       | 19.50         |
|                                                 |            | 25      | 0         | 18.82                   | 18.73     | 18.85       | 19.50         |
|                                                 | 64QAM      | 1       | 0         | 18.90                   | 18.78     | 18.75       | 19.50         |
|                                                 |            | 1       | 13        | 18.77                   | 18.70     | 18.56       | 19.50         |
|                                                 |            | 1       | 24        | 18.91                   | 18.86     | 18.90       | 19.50         |
|                                                 |            | 12      | 0         | 18.85                   | 18.77     | 18.85       | 19.50         |
|                                                 |            | 12      | 6         | 18.65                   | 18.64     | 18.59       | 19.50         |
|                                                 |            | 12      | 13        | 18.72                   | 18.81     | 18.76       | 19.50         |
|                                                 |            | 25      | 0         | 18.68                   | 18.72     | 18.69       | 19.50         |
| Bandwidth                                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |             | Tune-up Limit |
|                                                 |            |         |           | 23780/709               | 23790/710 | 23800/711   |               |
| 10MHz                                           | QPSK       | 1       | 0         | 18.96                   | 18.87     | 18.90       | 19.50         |
|                                                 |            | 1       | 25        | 18.75                   | 18.78     | 18.73       | 19.50         |
|                                                 |            | 1       | 49        | 19.12                   | 18.90     | 18.91       | 19.50         |
|                                                 |            | 25      | 0         | 18.91                   | 18.83     | 18.81       | 19.50         |
|                                                 |            | 25      | 13        | 18.70                   | 18.82     | 18.96       | 19.50         |
|                                                 |            | 25      | 25        | 18.92                   | 18.85     | 18.84       | 19.50         |
|                                                 |            | 50      | 0         | 18.73                   | 18.84     | 18.83       | 19.50         |
|                                                 | 16QAM      | 1       | 0         | 18.59                   | 18.83     | 18.68       | 19.50         |
|                                                 |            | 1       | 25        | 18.86                   | 18.82     | 18.97       | 19.50         |
|                                                 |            | 1       | 49        | 18.68                   | 18.75     | 18.82       | 19.50         |
|                                                 |            | 25      | 0         | 18.74                   | 18.71     | 18.71       | 19.50         |
|                                                 |            | 25      | 13        | 18.75                   | 18.79     | 18.85       | 19.50         |
|                                                 |            | 25      | 25        | 18.93                   | 18.86     | 18.95       | 19.50         |
|                                                 |            | 50      | 0         | 18.80                   | 18.69     | 18.82       | 19.50         |
|                                                 | 64QAM      | 1       | 0         | 18.85                   | 18.75     | 18.70       | 19.50         |
|                                                 |            | 1       | 25        | 18.74                   | 18.69     | 18.53       | 19.50         |



|  |  |    |    |       |       |       |       |
|--|--|----|----|-------|-------|-------|-------|
|  |  | 1  | 49 | 18.89 | 18.81 | 18.88 | 19.50 |
|  |  | 25 | 0  | 18.82 | 18.76 | 18.83 | 19.50 |
|  |  | 25 | 13 | 18.61 | 18.61 | 18.55 | 19.50 |
|  |  | 25 | 25 | 18.70 | 18.77 | 18.73 | 19.50 |
|  |  | 50 | 0  | 18.66 | 18.68 | 18.66 | 19.50 |

| LTE FDD Band 17<br>(REC Off) |            |         |           | Conducted Power(dBm)    |           |             |               |
|------------------------------|------------|---------|-----------|-------------------------|-----------|-------------|---------------|
| Bandwidth                    | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |             | Tune-up Limit |
|                              |            |         |           | 23755/706.5             | 23790/710 | 23825/713.5 |               |
| 5MHz                         | QPSK       | 1       | 0         | 22.80                   | 22.78     | 22.67       | 23.50         |
|                              |            | 1       | 13        | 22.67                   | 22.70     | 22.70       | 23.50         |
|                              |            | 1       | 24        | 22.82                   | 22.82     | 22.76       | 23.50         |
|                              |            | 12      | 0         | 21.78                   | 21.87     | 21.81       | 22.50         |
|                              |            | 12      | 6         | 21.85                   | 21.86     | 21.93       | 22.50         |
|                              |            | 12      | 13        | 21.87                   | 21.87     | 21.84       | 22.50         |
|                              |            | 25      | 0         | 21.75                   | 21.85     | 21.80       | 22.50         |
|                              | 16QAM      | 1       | 0         | 22.01                   | 21.80     | 22.13       | 22.50         |
|                              |            | 1       | 13        | 21.78                   | 21.82     | 22.06       | 22.50         |
|                              |            | 1       | 24        | 22.04                   | 21.92     | 22.11       | 22.50         |
|                              |            | 12      | 0         | 20.71                   | 20.87     | 20.87       | 21.50         |
|                              |            | 12      | 6         | 20.74                   | 20.83     | 20.76       | 21.50         |
|                              |            | 12      | 13        | 20.79                   | 20.93     | 20.84       | 21.50         |
|                              |            | 25      | 0         | 20.81                   | 20.76     | 20.76       | 21.50         |
|                              | 64QAM      | 1       | 0         | 21.10                   | 21.21     | 21.29       | 21.50         |
|                              |            | 1       | 13        | 21.04                   | 21.23     | 21.30       | 21.50         |
|                              |            | 1       | 24        | 21.24                   | 21.56     | 21.18       | 21.50         |
|                              |            | 12      | 0         | 20.35                   | 20.40     | 20.30       | 20.50         |
|                              |            | 12      | 6         | 20.38                   | 20.30     | 20.43       | 20.50         |
|                              |            | 12      | 13        | 20.38                   | 20.42     | 20.46       | 20.50         |
|                              |            | 25      | 0         | 20.33                   | 20.35     | 20.25       | 20.50         |
| Bandwidth                    | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |             | Tune-up Limit |
|                              |            |         |           | 23780/709               | 23790/710 | 23800/711   |               |
| 10MHz                        | QPSK       | 1       | 0         | 22.76                   | 22.70     | 22.62       | 23.50         |
|                              |            | 1       | 25        | 22.64                   | 22.65     | 22.65       | 23.50         |
|                              |            | 1       | 49        | 22.77                   | 22.76     | 22.69       | 23.50         |
|                              |            | 25      | 0         | 21.73                   | 21.78     | 21.74       | 22.50         |
|                              |            | 25      | 13        | 21.80                   | 21.77     | 21.86       | 22.50         |
|                              |            | 25      | 25        | 21.81                   | 21.79     | 21.76       | 22.50         |
|                              |            | 50      | 0         | 21.70                   | 21.76     | 21.71       | 22.50         |
|                              | 16QAM      | 1       | 0         | 21.94                   | 21.74     | 22.06       | 22.50         |
|                              |            | 1       | 25        | 21.72                   | 21.77     | 22.00       | 22.50         |
|                              |            | 1       | 49        | 21.99                   | 21.85     | 22.06       | 22.50         |





|  |       |    |    |       |       |       |       |
|--|-------|----|----|-------|-------|-------|-------|
|  |       | 25 | 0  | 20.65 | 20.81 | 20.81 | 21.50 |
|  |       | 25 | 13 | 20.68 | 20.76 | 20.69 | 21.50 |
|  |       | 25 | 25 | 20.74 | 20.84 | 20.77 | 21.50 |
|  |       | 50 | 0  | 20.76 | 20.67 | 20.69 | 21.50 |
|  | 64QAM | 1  | 0  | 21.03 | 21.15 | 21.22 | 21.50 |
|  |       | 1  | 25 | 20.98 | 21.18 | 21.24 | 21.50 |
|  |       | 1  | 49 | 21.19 | 21.49 | 21.13 | 21.50 |
|  |       | 25 | 0  | 20.29 | 20.34 | 20.24 | 20.50 |
|  |       | 25 | 13 | 20.32 | 20.23 | 20.36 | 20.50 |
|  |       | 25 | 25 | 20.33 | 20.33 | 20.39 | 20.50 |
|  |       | 50 | 0  | 20.28 | 20.26 | 20.18 | 20.50 |

| LTE FDD Band 17<br>(REC Off+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |           |             |               |
|---------------------------------------|------------|---------|-----------|-------------------------|-----------|-------------|---------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |             | Tune-up Limit |
|                                       |            |         |           | 23755/706.5             | 23790/710 | 23825/713.5 |               |
| 5MHz                                  | QPSK       | 1       | 0         | 19.97                   | 19.92     | 19.92       | 20.50         |
|                                       |            | 1       | 13        | 19.93                   | 19.98     | 19.91       | 20.50         |
|                                       |            | 1       | 24        | 20.17                   | 19.96     | 19.96       | 20.50         |
|                                       |            | 12      | 0         | 19.74                   | 19.79     | 19.90       | 20.50         |
|                                       |            | 12      | 6         | 19.75                   | 19.91     | 19.93       | 20.50         |
|                                       |            | 12      | 13        | 19.78                   | 19.90     | 19.83       | 20.50         |
|                                       |            | 25      | 0         | 19.70                   | 19.90     | 19.88       | 20.50         |
|                                       | 16QAM      | 1       | 0         | 19.82                   | 20.05     | 19.91       | 20.50         |
|                                       |            | 1       | 13        | 19.71                   | 19.64     | 19.82       | 20.50         |
|                                       |            | 1       | 24        | 19.72                   | 19.81     | 19.87       | 20.50         |
|                                       |            | 12      | 0         | 19.84                   | 19.81     | 19.81       | 20.50         |
|                                       |            | 12      | 6         | 19.76                   | 19.81     | 19.87       | 20.50         |
|                                       |            | 12      | 13        | 19.72                   | 19.69     | 19.76       | 20.50         |
|                                       |            | 25      | 0         | 19.77                   | 19.70     | 19.83       | 20.50         |
|                                       | 64QAM      | 1       | 0         | 19.89                   | 19.78     | 19.74       | 20.50         |
|                                       |            | 1       | 13        | 19.94                   | 19.86     | 19.73       | 20.50         |
|                                       |            | 1       | 24        | 19.84                   | 19.78     | 19.84       | 20.50         |
|                                       |            | 12      | 0         | 19.77                   | 19.71     | 19.78       | 20.50         |
|                                       |            | 12      | 6         | 19.72                   | 19.73     | 19.67       | 20.50         |
|                                       |            | 12      | 13        | 19.71                   | 19.82     | 19.76       | 20.50         |
|                                       |            | 25      | 0         | 19.67                   | 19.73     | 19.71       | 20.50         |
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |           |             | Tune-up Limit |
|                                       |            |         |           | 23780/709               | 23790/710 | 23800/711   |               |
| 10MHz                                 | QPSK       | 1       | 0         | 19.92                   | 19.83     | 19.86       | 20.50         |
|                                       |            | 1       | 25        | 19.91                   | 19.94     | 19.87       | 20.50         |
|                                       |            | 1       | 49        | 20.11                   | 19.89     | 19.88       | 20.50         |
|                                       |            | 25      | 0         | 19.69                   | 19.70     | 19.83       | 20.50         |



|  |       |    |    |       |       |       |       |
|--|-------|----|----|-------|-------|-------|-------|
|  |       | 25 | 13 | 19.71 | 19.83 | 19.85 | 20.50 |
|  |       | 25 | 25 | 19.72 | 19.84 | 19.76 | 20.50 |
|  |       | 50 | 0  | 19.71 | 19.82 | 19.81 | 20.50 |
|  | 16QAM | 1  | 0  | 19.74 | 19.98 | 19.83 | 20.50 |
|  |       | 1  | 25 | 19.65 | 19.61 | 19.76 | 20.50 |
|  |       | 1  | 49 | 19.67 | 19.74 | 19.81 | 20.50 |
|  |       | 25 | 0  | 19.79 | 19.76 | 19.76 | 20.50 |
|  |       | 25 | 13 | 19.69 | 19.73 | 19.79 | 20.50 |
|  |       | 25 | 25 | 19.67 | 19.60 | 19.69 | 20.50 |
|  |       | 50 | 0  | 19.73 | 19.62 | 19.75 | 20.50 |
|  | 64QAM | 1  | 0  | 19.81 | 19.71 | 19.66 | 20.50 |
|  |       | 1  | 25 | 19.88 | 19.83 | 19.67 | 20.50 |
|  |       | 1  | 49 | 19.79 | 19.71 | 19.78 | 20.50 |
|  |       | 25 | 0  | 19.72 | 19.66 | 19.73 | 20.50 |
|  |       | 25 | 13 | 19.65 | 19.65 | 19.59 | 20.50 |
|  |       | 25 | 25 | 19.66 | 19.73 | 19.69 | 20.50 |
|  |       | 50 | 0  | 19.63 | 19.65 | 19.63 | 20.50 |

| LTE FDD Band 26<br>(REC On+Left Head) |            |         |           | Conducted Power(dBm)    |             |             |                  |
|---------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|------------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                                       |            |         |           | 26697/814.7             | 26865/831.5 | 27033/848.3 |                  |
| 1.4MHz                                | QPSK       | 1       | 0         | 18.77                   | 18.81       | 18.74       | 19.50            |
|                                       |            | 1       | 2         | 18.87                   | 18.79       | 18.91       | 19.50            |
|                                       |            | 1       | 5         | 18.71                   | 18.77       | 18.81       | 19.50            |
|                                       |            | 3       | 0         | 18.81                   | 18.91       | 18.82       | 19.50            |
|                                       |            | 3       | 2         | 18.77                   | 18.80       | 18.92       | 19.50            |
|                                       |            | 3       | 3         | 18.84                   | 18.77       | 18.88       | 19.50            |
|                                       |            | 6       | 0         | 18.78                   | 18.81       | 18.83       | 19.50            |
|                                       | 16QAM      | 1       | 0         | 19.01                   | 18.82       | 19.07       | 19.50            |
|                                       |            | 1       | 2         | 18.89                   | 18.84       | 18.93       | 19.50            |
|                                       |            | 1       | 5         | 18.76                   | 18.76       | 18.95       | 19.50            |
|                                       |            | 3       | 0         | 18.83                   | 18.76       | 18.91       | 19.50            |
|                                       |            | 3       | 2         | 18.78                   | 18.80       | 18.89       | 19.50            |
|                                       |            | 3       | 3         | 18.80                   | 18.76       | 18.82       | 19.50            |
|                                       |            | 6       | 0         | 18.78                   | 18.73       | 18.75       | 19.50            |
|                                       | 64QAM      | 1       | 0         | 18.94                   | 18.80       | 18.92       | 19.50            |
|                                       |            | 1       | 2         | 18.93                   | 18.89       | 18.94       | 19.50            |
|                                       |            | 1       | 5         | 18.72                   | 18.81       | 18.93       | 19.50            |
|                                       |            | 3       | 0         | 18.81                   | 18.75       | 18.90       | 19.50            |
|                                       |            | 3       | 2         | 18.84                   | 18.69       | 18.83       | 19.50            |
|                                       |            | 3       | 3         | 18.71                   | 18.85       | 18.88       | 19.50            |
|                                       |            | 6       | 0         | 18.80                   | 18.72       | 18.87       | 19.50            |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            |         |           | 26705/815.5             | 26865/831.5 | 27025/847.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 18.74                   | 18.79       | 18.70       | 19.50         |
|           |            | 1       | 7         | 18.85                   | 18.75       | 18.88       | 19.50         |
|           |            | 1       | 14        | 18.68                   | 18.72       | 18.77       | 19.50         |
|           |            | 8       | 0         | 18.78                   | 18.86       | 18.78       | 19.50         |
|           |            | 8       | 4         | 18.75                   | 18.76       | 18.87       | 19.50         |
|           |            | 8       | 7         | 18.82                   | 18.75       | 18.84       | 19.50         |
|           |            | 15      | 0         | 18.76                   | 18.80       | 18.81       | 19.50         |
|           | 16QAM      | 1       | 0         | 18.98                   | 18.78       | 19.04       | 19.50         |
|           |            | 1       | 7         | 18.86                   | 18.82       | 18.90       | 19.50         |
|           |            | 1       | 14        | 18.73                   | 18.74       | 18.91       | 19.50         |
|           |            | 8       | 0         | 18.81                   | 18.72       | 18.88       | 19.50         |
|           |            | 8       | 4         | 18.75                   | 18.75       | 18.85       | 19.50         |
|           |            | 8       | 7         | 18.77                   | 18.71       | 18.78       | 19.50         |
|           |            | 15      | 0         | 18.76                   | 18.69       | 18.70       | 19.50         |
|           | 64QAM      | 1       | 0         | 18.91                   | 18.76       | 18.89       | 19.50         |
|           |            | 1       | 7         | 18.90                   | 18.87       | 18.91       | 19.50         |
|           |            | 1       | 14        | 18.69                   | 18.79       | 18.89       | 19.50         |
|           |            | 8       | 0         | 18.79                   | 18.71       | 18.87       | 19.50         |
|           |            | 8       | 4         | 18.81                   | 18.64       | 18.79       | 19.50         |
|           |            | 8       | 7         | 18.68                   | 18.80       | 18.84       | 19.50         |
|           |            | 15      | 0         | 18.78                   | 18.68       | 18.82       | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26715/816.5             | 26865/831.5 | 27015/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 18.76                   | 18.80       | 18.73       | 19.50         |
|           |            | 1       | 13        | 18.88                   | 18.80       | 18.92       | 19.50         |
|           |            | 1       | 24        | 18.70                   | 18.76       | 18.80       | 19.50         |
|           |            | 12      | 0         | 18.81                   | 18.91       | 18.82       | 19.50         |
|           |            | 12      | 6         | 18.78                   | 18.81       | 18.91       | 19.50         |
|           |            | 12      | 13        | 18.84                   | 18.79       | 18.89       | 19.50         |
|           |            | 25      | 0         | 18.84                   | 18.82       | 18.85       | 19.50         |
|           | 16QAM      | 1       | 0         | 19.00                   | 18.81       | 19.06       | 19.50         |
|           |            | 1       | 13        | 18.89                   | 18.86       | 18.93       | 19.50         |
|           |            | 1       | 24        | 18.76                   | 18.76       | 18.94       | 19.50         |
|           |            | 12      | 0         | 18.84                   | 18.77       | 18.92       | 19.50         |
|           |            | 12      | 6         | 18.77                   | 18.79       | 18.88       | 19.50         |
|           |            | 12      | 13        | 18.80                   | 18.76       | 18.82       | 19.50         |
|           |            | 25      | 0         | 18.79                   | 18.74       | 18.74       | 19.50         |
|           | 64QAM      | 1       | 0         | 18.93                   | 18.79       | 18.91       | 19.50         |
|           |            | 1       | 13        | 18.93                   | 18.91       | 18.94       | 19.50         |
|           |            | 1       | 24        | 18.72                   | 18.81       | 18.92       | 19.50         |
|           |            | 12      | 0         | 18.82                   | 18.76       | 18.91       | 19.50         |



|           |            | 12      | 6         | 18.83                   | 18.68       | 18.82       | 19.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 12      | 13        | 18.71                   | 18.85       | 18.88       | 19.50         |
|           |            | 25      | 0         | 18.81                   | 18.73       | 18.86       | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26750/820               | 26865/831.5 | 26990/844   |               |
| 10MHz     | QPSK       | 1       | 0         | 18.75                   | 18.76       | 18.71       | 19.50         |
|           |            | 1       | 25        | 18.86                   | 18.79       | 18.89       | 19.50         |
|           |            | 1       | 49        | 18.67                   | 18.71       | 18.76       | 19.50         |
|           |            | 25      | 0         | 18.79                   | 18.87       | 18.79       | 19.50         |
|           |            | 25      | 13        | 18.75                   | 18.76       | 18.87       | 19.50         |
|           |            | 25      | 25        | 18.81                   | 18.76       | 18.85       | 19.50         |
|           |            | 50      | 0         | 18.82                   | 18.78       | 18.80       | 19.50         |
|           | 16QAM      | 1       | 0         | 18.95                   | 18.79       | 19.04       | 19.50         |
|           |            | 1       | 25        | 18.87                   | 18.83       | 18.91       | 19.50         |
|           |            | 1       | 49        | 18.73                   | 18.72       | 18.91       | 19.50         |
|           |            | 25      | 0         | 18.81                   | 18.75       | 18.89       | 19.50         |
|           |            | 25      | 13        | 18.74                   | 18.74       | 18.84       | 19.50         |
|           |            | 25      | 25        | 18.78                   | 18.72       | 18.79       | 19.50         |
|           |            | 50      | 0         | 18.76                   | 18.69       | 18.70       | 19.50         |
|           | 64QAM      | 1       | 0         | 18.88                   | 18.77       | 18.89       | 19.50         |
|           |            | 1       | 25        | 18.91                   | 18.88       | 18.92       | 19.50         |
|           |            | 1       | 49        | 18.69                   | 18.77       | 18.89       | 19.50         |
|           |            | 25      | 0         | 18.79                   | 18.74       | 18.88       | 19.50         |
|           |            | 25      | 13        | 18.80                   | 18.63       | 18.78       | 19.50         |
|           |            | 25      | 25        | 18.69                   | 18.81       | 18.85       | 19.50         |
|           |            | 50      | 0         | 18.78                   | 18.68       | 18.82       | 19.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26775/822.5             | 26865/831.5 | 26965/841.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 18.72                   | 18.72       | 18.68       | 19.50         |
|           |            | 1       | 38        | 18.85                   | 18.75       | 18.87       | 19.50         |
|           |            | 1       | 74        | 18.65                   | 18.70       | 18.73       | 19.50         |
|           |            | 36      | 0         | 18.76                   | 18.82       | 18.75       | 19.50         |
|           |            | 36      | 18        | 18.73                   | 18.72       | 18.84       | 19.50         |
|           |            | 36      | 39        | 18.78                   | 18.71       | 18.81       | 19.50         |
|           |            | 75      | 0         | 18.79                   | 18.73       | 18.76       | 19.50         |
|           | 16QAM      | 1       | 0         | 18.93                   | 18.75       | 18.99       | 19.50         |
|           |            | 1       | 38        | 18.83                   | 18.81       | 18.87       | 19.50         |
|           |            | 1       | 74        | 18.71                   | 18.69       | 18.89       | 19.50         |
|           |            | 36      | 0         | 18.78                   | 18.71       | 18.86       | 19.50         |
|           |            | 36      | 18        | 18.71                   | 18.72       | 18.81       | 19.50         |
|           |            | 36      | 39        | 18.75                   | 18.67       | 18.75       | 19.50         |
|           |            | 75      | 0         | 18.74                   | 18.65       | 18.67       | 19.50         |
|           | 64QAM      | 1       | 0         | 18.86                   | 18.73       | 18.84       | 19.50         |



|  |  |    |    |       |       |       |       |
|--|--|----|----|-------|-------|-------|-------|
|  |  | 1  | 38 | 18.87 | 18.86 | 18.88 | 19.50 |
|  |  | 1  | 74 | 18.67 | 18.74 | 18.87 | 19.50 |
|  |  | 36 | 0  | 18.76 | 18.70 | 18.85 | 19.50 |
|  |  | 36 | 18 | 18.77 | 18.61 | 18.75 | 19.50 |
|  |  | 36 | 39 | 18.66 | 18.76 | 18.81 | 19.50 |
|  |  | 75 | 0  | 18.76 | 18.64 | 18.79 | 19.50 |

| LTE FDD Band 26<br>(REC On+Right Head) |            |         |           | Conducted Power(dBm)    |             |             |               |
|----------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
| Bandwidth                              | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                        |            |         |           | 26697/814.7             | 26865/831.5 | 27033/848.3 |               |
| 1.4MHz                                 | QPSK       | 1       | 0         | 19.32                   | 19.34       | 19.29       | 20.00         |
|                                        |            | 1       | 2         | 19.34                   | 19.33       | 19.38       | 20.00         |
|                                        |            | 1       | 5         | 19.29                   | 19.35       | 19.39       | 20.00         |
|                                        |            | 3       | 0         | 19.34                   | 19.40       | 19.35       | 20.00         |
|                                        |            | 3       | 2         | 19.24                   | 19.27       | 19.43       | 20.00         |
|                                        |            | 3       | 3         | 19.36                   | 19.25       | 19.36       | 20.00         |
|                                        |            | 6       | 0         | 19.36                   | 19.39       | 19.41       | 20.00         |
|                                        | 16QAM      | 1       | 0         | 19.44                   | 19.25       | 19.50       | 20.00         |
|                                        |            | 1       | 2         | 19.37                   | 19.32       | 19.41       | 20.00         |
|                                        |            | 1       | 5         | 19.27                   | 19.27       | 19.46       | 20.00         |
|                                        |            | 3       | 0         | 19.29                   | 19.22       | 19.37       | 20.00         |
|                                        |            | 3       | 2         | 19.20                   | 19.22       | 19.31       | 20.00         |
|                                        |            | 3       | 3         | 19.27                   | 19.23       | 19.29       | 20.00         |
|                                        |            | 6       | 0         | 19.40                   | 19.35       | 19.37       | 20.00         |
|                                        | 64QAM      | 1       | 0         | 19.52                   | 19.38       | 19.50       | 20.00         |
|                                        |            | 1       | 2         | 19.46                   | 19.42       | 19.47       | 20.00         |
|                                        |            | 1       | 5         | 19.13                   | 19.22       | 19.34       | 20.00         |
|                                        |            | 3       | 0         | 19.28                   | 19.22       | 19.37       | 20.00         |
|                                        |            | 3       | 2         | 19.39                   | 19.24       | 19.38       | 20.00         |
|                                        |            | 3       | 3         | 19.11                   | 19.25       | 19.28       | 20.00         |
|                                        |            | 6       | 0         | 19.30                   | 19.22       | 19.37       | 20.00         |
| Bandwidth                              | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                        |            |         |           | 26705/815.5             | 26865/831.5 | 27025/847.5 |               |
| 3MHz                                   | QPSK       | 1       | 0         | 19.29                   | 19.32       | 19.25       | 20.00         |
|                                        |            | 1       | 7         | 19.32                   | 19.29       | 19.35       | 20.00         |
|                                        |            | 1       | 14        | 19.26                   | 19.30       | 19.35       | 20.00         |
|                                        |            | 8       | 0         | 19.31                   | 19.35       | 19.31       | 20.00         |
|                                        |            | 8       | 4         | 19.22                   | 19.23       | 19.38       | 20.00         |
|                                        |            | 8       | 7         | 19.34                   | 19.23       | 19.32       | 20.00         |
|                                        |            | 15      | 0         | 19.34                   | 19.38       | 19.39       | 20.00         |
|                                        | 16QAM      | 1       | 0         | 19.41                   | 19.21       | 19.47       | 20.00         |
|                                        |            | 1       | 7         | 19.34                   | 19.30       | 19.38       | 20.00         |



|           |            | 1       | 14        | 19.24                   | 19.25       | 19.42       | 20.00         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 8       | 0         | 19.27                   | 19.18       | 19.34       | 20.00         |
|           |            | 8       | 4         | 19.17                   | 19.17       | 19.27       | 20.00         |
|           |            | 8       | 7         | 19.24                   | 19.18       | 19.25       | 20.00         |
|           |            | 15      | 0         | 19.38                   | 19.31       | 19.32       | 20.00         |
|           | 64QAM      | 1       | 0         | 19.49                   | 19.34       | 19.47       | 20.00         |
|           |            | 1       | 7         | 19.43                   | 19.40       | 19.44       | 20.00         |
|           |            | 1       | 14        | 19.10                   | 19.20       | 19.30       | 20.00         |
|           |            | 8       | 0         | 19.26                   | 19.18       | 19.34       | 20.00         |
|           |            | 8       | 4         | 19.36                   | 19.19       | 19.34       | 20.00         |
|           |            | 8       | 7         | 19.08                   | 19.20       | 19.24       | 20.00         |
|           |            | 15      | 0         | 19.28                   | 19.18       | 19.32       | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26715/816.5             | 26865/831.5 | 27015/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 19.31                   | 19.33       | 19.28       | 20.00         |
|           |            | 1       | 13        | 19.35                   | 19.34       | 19.39       | 20.00         |
|           |            | 1       | 24        | 19.28                   | 19.34       | 19.38       | 20.00         |
|           |            | 12      | 0         | 19.34                   | 19.40       | 19.35       | 20.00         |
|           |            | 12      | 6         | 19.25                   | 19.28       | 19.42       | 20.00         |
|           |            | 12      | 13        | 19.36                   | 19.27       | 19.37       | 20.00         |
|           |            | 25      | 0         | 19.42                   | 19.40       | 19.43       | 20.00         |
|           | 16QAM      | 1       | 0         | 19.43                   | 19.24       | 19.49       | 20.00         |
|           |            | 1       | 13        | 19.37                   | 19.34       | 19.41       | 20.00         |
|           |            | 1       | 24        | 19.27                   | 19.27       | 19.45       | 20.00         |
|           |            | 12      | 0         | 19.30                   | 19.23       | 19.38       | 20.00         |
|           |            | 12      | 6         | 19.19                   | 19.21       | 19.30       | 20.00         |
|           |            | 12      | 13        | 19.27                   | 19.23       | 19.29       | 20.00         |
|           |            | 25      | 0         | 19.41                   | 19.36       | 19.36       | 20.00         |
|           | 64QAM      | 1       | 0         | 19.51                   | 19.37       | 19.49       | 20.00         |
|           |            | 1       | 13        | 19.46                   | 19.44       | 19.47       | 20.00         |
|           |            | 1       | 24        | 19.13                   | 19.22       | 19.33       | 20.00         |
|           |            | 12      | 0         | 19.29                   | 19.23       | 19.38       | 20.00         |
|           |            | 12      | 6         | 19.38                   | 19.23       | 19.37       | 20.00         |
|           |            | 12      | 13        | 19.11                   | 19.25       | 19.28       | 20.00         |
|           |            | 25      | 0         | 19.31                   | 19.23       | 19.36       | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26750/820               | 26865/831.5 | 26990/844   |               |
| 10MHz     | QPSK       | 1       | 0         | 19.30                   | 19.29       | 19.26       | 20.00         |
|           |            | 1       | 25        | 19.33                   | 19.33       | 19.36       | 20.00         |
|           |            | 1       | 49        | 19.25                   | 19.29       | 19.34       | 20.00         |
|           |            | 25      | 0         | 19.32                   | 19.36       | 19.32       | 20.00         |
|           |            | 25      | 13        | 19.22                   | 19.23       | 19.38       | 20.00         |
|           |            | 25      | 25        | 19.33                   | 19.24       | 19.33       | 20.00         |



|           | 16QAM      | 50      | 0         | 19.40                   | 19.36       | 19.38       | 20.00         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 1       | 0         | 19.38                   | 19.22       | 19.47       | 20.00         |
|           |            | 1       | 25        | 19.35                   | 19.31       | 19.39       | 20.00         |
|           |            | 1       | 49        | 19.24                   | 19.23       | 19.42       | 20.00         |
|           |            | 25      | 0         | 19.27                   | 19.21       | 19.35       | 20.00         |
|           |            | 25      | 13        | 19.16                   | 19.16       | 19.26       | 20.00         |
|           |            | 25      | 25        | 19.25                   | 19.19       | 19.26       | 20.00         |
|           |            | 50      | 0         | 19.38                   | 19.31       | 19.32       | 20.00         |
|           | 64QAM      | 1       | 0         | 19.46                   | 19.35       | 19.47       | 20.00         |
|           |            | 1       | 25        | 19.44                   | 19.41       | 19.45       | 20.00         |
|           |            | 1       | 49        | 19.10                   | 19.18       | 19.30       | 20.00         |
|           |            | 25      | 0         | 19.26                   | 19.21       | 19.35       | 20.00         |
|           |            | 25      | 13        | 19.35                   | 19.18       | 19.33       | 20.00         |
|           |            | 25      | 25        | 19.09                   | 19.21       | 19.25       | 20.00         |
|           |            | 50      | 0         | 19.28                   | 19.18       | 19.32       | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26775/822.5             | 26865/831.5 | 26965/841.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 19.27                   | 19.25       | 19.23       | 20.00         |
|           |            | 1       | 38        | 19.32                   | 19.29       | 19.34       | 20.00         |
|           |            | 1       | 74        | 19.23                   | 19.28       | 19.31       | 20.00         |
|           |            | 36      | 0         | 19.29                   | 19.31       | 19.28       | 20.00         |
|           |            | 36      | 18        | 19.20                   | 19.19       | 19.35       | 20.00         |
|           |            | 36      | 39        | 19.30                   | 19.19       | 19.29       | 20.00         |
|           |            | 75      | 0         | 19.37                   | 19.31       | 19.34       | 20.00         |
|           | 16QAM      | 1       | 0         | 19.36                   | 19.18       | 19.42       | 20.00         |
|           |            | 1       | 38        | 19.31                   | 19.29       | 19.35       | 20.00         |
|           |            | 1       | 74        | 19.22                   | 19.20       | 19.40       | 20.00         |
|           |            | 36      | 0         | 19.24                   | 19.17       | 19.32       | 20.00         |
|           |            | 36      | 18        | 19.13                   | 19.14       | 19.23       | 20.00         |
|           |            | 36      | 39        | 19.22                   | 19.14       | 19.22       | 20.00         |
|           |            | 75      | 0         | 19.36                   | 19.27       | 19.29       | 20.00         |
|           | 64QAM      | 1       | 0         | 19.44                   | 19.31       | 19.42       | 20.00         |
|           |            | 1       | 38        | 19.40                   | 19.39       | 19.41       | 20.00         |
|           |            | 1       | 74        | 19.08                   | 19.15       | 19.28       | 20.00         |
|           |            | 36      | 0         | 19.23                   | 19.17       | 19.32       | 20.00         |
|           |            | 36      | 18        | 19.32                   | 19.16       | 19.30       | 20.00         |
|           |            | 36      | 39        | 19.06                   | 19.16       | 19.21       | 20.00         |
|           |            | 75      | 0         | 19.26                   | 19.14       | 19.29       | 20.00         |



| LTE FDD Band 26<br>(REC On+Left Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |             |             |               |
|------------------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
| Bandwidth                                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                                |            |         |           | 26697/814.7             | 26865/831.5 | 27033/848.3 |               |
| 1.4MHz                                         | QPSK       | 1       | 0         | 15.78                   | 15.73       | 15.78       | 16.50         |
|                                                |            | 1       | 2         | 15.77                   | 15.75       | 15.81       | 16.50         |
|                                                |            | 1       | 5         | 15.71                   | 15.77       | 15.81       | 16.50         |
|                                                |            | 3       | 0         | 15.83                   | 15.93       | 15.94       | 16.50         |
|                                                |            | 3       | 2         | 15.77                   | 15.80       | 16.02       | 16.50         |
|                                                |            | 3       | 3         | 15.91                   | 15.74       | 15.85       | 16.50         |
|                                                |            | 6       | 0         | 15.79                   | 15.82       | 15.84       | 16.50         |
|                                                | 16QAM      | 1       | 0         | 15.94                   | 15.75       | 16.00       | 16.50         |
|                                                |            | 1       | 2         | 15.93                   | 15.88       | 15.97       | 16.50         |
|                                                |            | 1       | 5         | 15.79                   | 15.79       | 15.98       | 16.50         |
|                                                |            | 3       | 0         | 15.74                   | 15.67       | 15.82       | 16.50         |
|                                                |            | 3       | 2         | 15.70                   | 15.72       | 15.81       | 16.50         |
|                                                |            | 3       | 3         | 15.84                   | 15.80       | 15.86       | 16.50         |
|                                                |            | 6       | 0         | 15.87                   | 15.82       | 15.84       | 16.50         |
|                                                | 64QAM      | 1       | 0         | 15.98                   | 15.84       | 15.96       | 16.50         |
|                                                |            | 1       | 2         | 15.90                   | 15.86       | 15.91       | 16.50         |
|                                                |            | 1       | 5         | 15.66                   | 15.75       | 15.87       | 16.50         |
|                                                |            | 3       | 0         | 15.76                   | 15.70       | 15.85       | 16.50         |
|                                                |            | 3       | 2         | 15.84                   | 15.69       | 15.83       | 16.50         |
|                                                |            | 3       | 3         | 15.64                   | 15.78       | 15.81       | 16.50         |
|                                                |            | 6       | 0         | 15.80                   | 15.72       | 15.87       | 16.50         |
| Bandwidth                                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                                |            |         |           | 26705/815.5             | 26865/831.5 | 27025/847.5 |               |
| 3MHz                                           | QPSK       | 1       | 0         | 15.75                   | 15.71       | 15.74       | 16.50         |
|                                                |            | 1       | 7         | 15.75                   | 15.71       | 15.78       | 16.50         |
|                                                |            | 1       | 14        | 15.68                   | 15.72       | 15.77       | 16.50         |
|                                                |            | 8       | 0         | 15.80                   | 15.88       | 15.90       | 16.50         |
|                                                |            | 8       | 4         | 15.75                   | 15.76       | 15.97       | 16.50         |
|                                                |            | 8       | 7         | 15.89                   | 15.72       | 15.81       | 16.50         |
|                                                |            | 15      | 0         | 15.77                   | 15.81       | 15.82       | 16.50         |
|                                                | 16QAM      | 1       | 0         | 15.91                   | 15.71       | 15.97       | 16.50         |
|                                                |            | 1       | 7         | 15.90                   | 15.86       | 15.94       | 16.50         |
|                                                |            | 1       | 14        | 15.76                   | 15.77       | 15.94       | 16.50         |
|                                                |            | 8       | 0         | 15.72                   | 15.63       | 15.79       | 16.50         |
|                                                |            | 8       | 4         | 15.67                   | 15.67       | 15.77       | 16.50         |
|                                                |            | 8       | 7         | 15.81                   | 15.75       | 15.82       | 16.50         |
|                                                |            | 15      | 0         | 15.85                   | 15.78       | 15.79       | 16.50         |
|                                                | 64QAM      | 1       | 0         | 15.95                   | 15.80       | 15.93       | 16.50         |
|                                                |            | 1       | 7         | 15.87                   | 15.84       | 15.88       | 16.50         |





|           |            | 1       | 14        | 15.63                   | 15.73       | 15.83       | 16.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 8       | 0         | 15.74                   | 15.66       | 15.82       | 16.50         |
|           |            | 8       | 4         | 15.81                   | 15.64       | 15.79       | 16.50         |
|           |            | 8       | 7         | 15.61                   | 15.73       | 15.77       | 16.50         |
|           |            | 15      | 0         | 15.78                   | 15.68       | 15.82       | 16.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26715/816.5             | 26865/831.5 | 27015/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 15.77                   | 15.72       | 15.77       | 16.50         |
|           |            | 1       | 13        | 15.78                   | 15.76       | 15.82       | 16.50         |
|           |            | 1       | 24        | 15.70                   | 15.76       | 15.80       | 16.50         |
|           |            | 12      | 0         | 15.83                   | 15.93       | 15.94       | 16.50         |
|           |            | 12      | 6         | 15.78                   | 15.81       | 16.01       | 16.50         |
|           |            | 12      | 13        | 15.91                   | 15.76       | 15.86       | 16.50         |
|           |            | 25      | 0         | 15.85                   | 15.83       | 15.86       | 16.50         |
|           | 16QAM      | 1       | 0         | 15.93                   | 15.74       | 15.99       | 16.50         |
|           |            | 1       | 13        | 15.93                   | 15.90       | 15.97       | 16.50         |
|           |            | 1       | 24        | 15.79                   | 15.79       | 15.97       | 16.50         |
|           |            | 12      | 0         | 15.75                   | 15.68       | 15.83       | 16.50         |
|           |            | 12      | 6         | 15.69                   | 15.71       | 15.80       | 16.50         |
|           |            | 12      | 13        | 15.84                   | 15.80       | 15.86       | 16.50         |
|           |            | 25      | 0         | 15.88                   | 15.83       | 15.83       | 16.50         |
|           | 64QAM      | 1       | 0         | 15.97                   | 15.83       | 15.95       | 16.50         |
|           |            | 1       | 13        | 15.90                   | 15.88       | 15.91       | 16.50         |
|           |            | 1       | 24        | 15.66                   | 15.75       | 15.86       | 16.50         |
|           |            | 12      | 0         | 15.77                   | 15.71       | 15.86       | 16.50         |
|           |            | 12      | 6         | 15.83                   | 15.68       | 15.82       | 16.50         |
|           |            | 12      | 13        | 15.64                   | 15.78       | 15.81       | 16.50         |
|           |            | 25      | 0         | 15.81                   | 15.73       | 15.86       | 16.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26750/820               | 26865/831.5 | 26990/844   |               |
| 10MHz     | QPSK       | 1       | 0         | 15.76                   | 15.68       | 15.75       | 16.50         |
|           |            | 1       | 25        | 15.76                   | 15.75       | 15.79       | 16.50         |
|           |            | 1       | 49        | 15.67                   | 15.71       | 15.76       | 16.50         |
|           |            | 25      | 0         | 15.81                   | 15.89       | 15.91       | 16.50         |
|           |            | 25      | 13        | 15.75                   | 15.76       | 15.97       | 16.50         |
|           |            | 25      | 25        | 15.88                   | 15.73       | 15.82       | 16.50         |
|           |            | 50      | 0         | 15.83                   | 15.79       | 15.81       | 16.50         |
|           | 16QAM      | 1       | 0         | 15.88                   | 15.72       | 15.97       | 16.50         |
|           |            | 1       | 25        | 15.91                   | 15.87       | 15.95       | 16.50         |
|           |            | 1       | 49        | 15.76                   | 15.75       | 15.94       | 16.50         |
|           |            | 25      | 0         | 15.72                   | 15.66       | 15.80       | 16.50         |
|           |            | 25      | 13        | 15.66                   | 15.66       | 15.76       | 16.50         |
|           |            | 25      | 25        | 15.82                   | 15.76       | 15.83       | 16.50         |



|           | 64QAM      | 50      | 0         | 15.85                   | 15.78       | 15.79       | 16.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 1       | 0         | 15.92                   | 15.81       | 15.93       | 16.50         |
|           |            | 1       | 25        | 15.88                   | 15.85       | 15.89       | 16.50         |
|           |            | 1       | 49        | 15.63                   | 15.71       | 15.83       | 16.50         |
|           |            | 25      | 0         | 15.74                   | 15.69       | 15.83       | 16.50         |
|           |            | 25      | 13        | 15.80                   | 15.63       | 15.78       | 16.50         |
|           |            | 25      | 25        | 15.62                   | 15.74       | 15.78       | 16.50         |
|           |            | 50      | 0         | 15.78                   | 15.68       | 15.82       | 16.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26775/822.5             | 26865/831.5 | 26965/841.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 15.73                   | 15.64       | 15.72       | 16.50         |
|           |            | 1       | 38        | 15.75                   | 15.71       | 15.77       | 16.50         |
|           |            | 1       | 74        | 15.65                   | 15.70       | 15.73       | 16.50         |
|           |            | 36      | 0         | 15.78                   | 15.84       | 15.87       | 16.50         |
|           |            | 36      | 18        | 15.73                   | 15.72       | 15.94       | 16.50         |
|           |            | 36      | 39        | 15.85                   | 15.68       | 15.78       | 16.50         |
|           |            | 75      | 0         | 15.80                   | 15.74       | 15.77       | 16.50         |
|           | 16QAM      | 1       | 0         | 15.86                   | 15.68       | 15.92       | 16.50         |
|           |            | 1       | 38        | 15.87                   | 15.85       | 15.91       | 16.50         |
|           |            | 1       | 74        | 15.74                   | 15.72       | 15.92       | 16.50         |
|           |            | 36      | 0         | 15.69                   | 15.62       | 15.77       | 16.50         |
|           |            | 36      | 18        | 15.63                   | 15.64       | 15.73       | 16.50         |
|           |            | 36      | 39        | 15.79                   | 15.71       | 15.79       | 16.50         |
|           |            | 75      | 0         | 15.83                   | 15.74       | 15.76       | 16.50         |
|           | 64QAM      | 1       | 0         | 15.90                   | 15.77       | 15.88       | 16.50         |
|           |            | 1       | 38        | 15.84                   | 15.83       | 15.85       | 16.50         |
|           |            | 1       | 74        | 15.61                   | 15.68       | 15.81       | 16.50         |
|           |            | 36      | 0         | 15.71                   | 15.65       | 15.80       | 16.50         |
|           |            | 36      | 18        | 15.77                   | 15.61       | 15.75       | 16.50         |
|           |            | 36      | 39        | 15.59                   | 15.69       | 15.74       | 16.50         |
|           |            | 75      | 0         | 15.76                   | 15.64       | 15.79       | 16.50         |

| LTE FDD Band 26<br>(REC On+Right Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |             |             |               |
|-------------------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
| Bandwidth                                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                                 |            |         |           | 26697/814.7             | 26865/831.5 | 27033/848.3 |               |
| 1.4MHz                                          | QPSK       | 1       | 0         | 16.27                   | 16.29       | 16.24       | 17.00         |
|                                                 |            | 1       | 2         | 16.33                   | 16.25       | 16.37       | 17.00         |
|                                                 |            | 1       | 5         | 16.16                   | 16.22       | 16.26       | 17.00         |
|                                                 |            | 3       | 0         | 16.40                   | 16.41       | 16.41       | 17.00         |
|                                                 |            | 3       | 2         | 16.25                   | 16.28       | 16.49       | 17.00         |
|                                                 |            | 3       | 3         | 16.33                   | 16.26       | 16.37       | 17.00         |
|                                                 |            | 6       | 0         | 16.31                   | 16.34       | 16.36       | 17.00         |



|           | 16QAM      | 1       | 0         | 16.25                   | 16.06       | 16.31       | 17.00         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 1       | 2         | 16.31                   | 16.26       | 16.35       | 17.00         |
|           |            | 1       | 5         | 16.25                   | 16.25       | 16.44       | 17.00         |
|           |            | 3       | 0         | 16.28                   | 16.21       | 16.36       | 17.00         |
|           |            | 3       | 2         | 16.16                   | 16.18       | 16.27       | 17.00         |
|           |            | 3       | 3         | 16.34                   | 16.30       | 16.36       | 17.00         |
|           |            | 6       | 0         | 16.39                   | 16.34       | 16.36       | 17.00         |
|           | 64QAM      | 1       | 0         | 16.40                   | 16.26       | 16.38       | 17.00         |
|           |            | 1       | 2         | 16.32                   | 16.28       | 16.33       | 17.00         |
|           |            | 1       | 5         | 16.03                   | 16.12       | 16.24       | 17.00         |
|           |            | 3       | 0         | 16.20                   | 16.14       | 16.29       | 17.00         |
|           |            | 3       | 2         | 16.31                   | 16.16       | 16.30       | 17.00         |
|           |            | 3       | 3         | 16.19                   | 16.33       | 16.36       | 17.00         |
|           |            | 6       | 0         | 16.29                   | 16.21       | 16.36       | 17.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26705/815.5             | 26865/831.5 | 27025/847.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 16.24                   | 16.27       | 16.20       | 17.00         |
|           |            | 1       | 7         | 16.31                   | 16.21       | 16.34       | 17.00         |
|           |            | 1       | 14        | 16.13                   | 16.17       | 16.22       | 17.00         |
|           |            | 8       | 0         | 16.37                   | 16.36       | 16.37       | 17.00         |
|           |            | 8       | 4         | 16.23                   | 16.24       | 16.44       | 17.00         |
|           |            | 8       | 7         | 16.31                   | 16.24       | 16.33       | 17.00         |
|           |            | 15      | 0         | 16.29                   | 16.33       | 16.34       | 17.00         |
|           | 16QAM      | 1       | 0         | 16.22                   | 16.02       | 16.28       | 17.00         |
|           |            | 1       | 7         | 16.28                   | 16.24       | 16.32       | 17.00         |
|           |            | 1       | 14        | 16.22                   | 16.23       | 16.40       | 17.00         |
|           |            | 8       | 0         | 16.26                   | 16.17       | 16.33       | 17.00         |
|           |            | 8       | 4         | 16.13                   | 16.13       | 16.23       | 17.00         |
|           |            | 8       | 7         | 16.31                   | 16.25       | 16.32       | 17.00         |
|           |            | 15      | 0         | 16.37                   | 16.30       | 16.31       | 17.00         |
|           | 64QAM      | 1       | 0         | 16.37                   | 16.22       | 16.35       | 17.00         |
|           |            | 1       | 7         | 16.29                   | 16.26       | 16.30       | 17.00         |
|           |            | 1       | 14        | 16.00                   | 16.10       | 16.20       | 17.00         |
|           |            | 8       | 0         | 16.18                   | 16.10       | 16.26       | 17.00         |
|           |            | 8       | 4         | 16.28                   | 16.11       | 16.26       | 17.00         |
|           |            | 8       | 7         | 16.16                   | 16.28       | 16.32       | 17.00         |
|           |            | 15      | 0         | 16.27                   | 16.17       | 16.31       | 17.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26715/816.5             | 26865/831.5 | 27015/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 16.26                   | 16.28       | 16.23       | 17.00         |
|           |            | 1       | 13        | 16.34                   | 16.26       | 16.38       | 17.00         |
|           |            | 1       | 24        | 16.15                   | 16.21       | 16.25       | 17.00         |
|           |            | 12      | 0         | 16.40                   | 16.41       | 16.41       | 17.00         |



|           |            | 12      | 6         | 16.26                   | 16.29       | 16.48       | 17.00         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 12      | 13        | 16.33                   | 16.28       | 16.38       | 17.00         |
|           |            | 25      | 0         | 16.37                   | 16.35       | 16.38       | 17.00         |
|           | 16QAM      | 1       | 0         | 16.24                   | 16.05       | 16.30       | 17.00         |
|           |            | 1       | 13        | 16.31                   | 16.28       | 16.35       | 17.00         |
|           |            | 1       | 24        | 16.25                   | 16.25       | 16.43       | 17.00         |
|           |            | 12      | 0         | 16.29                   | 16.22       | 16.37       | 17.00         |
|           |            | 12      | 6         | 16.15                   | 16.17       | 16.26       | 17.00         |
|           |            | 12      | 13        | 16.34                   | 16.30       | 16.36       | 17.00         |
|           |            | 25      | 0         | 16.40                   | 16.35       | 16.35       | 17.00         |
|           |            | 25      | 0         | 16.40                   | 16.35       | 16.35       | 17.00         |
|           | 64QAM      | 1       | 0         | 16.39                   | 16.25       | 16.37       | 17.00         |
|           |            | 1       | 13        | 16.32                   | 16.30       | 16.33       | 17.00         |
|           |            | 1       | 24        | 16.03                   | 16.12       | 16.23       | 17.00         |
|           |            | 12      | 0         | 16.21                   | 16.15       | 16.30       | 17.00         |
|           |            | 12      | 6         | 16.30                   | 16.15       | 16.29       | 17.00         |
|           |            | 12      | 13        | 16.19                   | 16.33       | 16.36       | 17.00         |
|           |            | 25      | 0         | 16.30                   | 16.22       | 16.35       | 17.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26750/820               | 26865/831.5 | 26990/844   |               |
| 10MHz     | QPSK       | 1       | 0         | 16.25                   | 16.24       | 16.21       | 17.00         |
|           |            | 1       | 25        | 16.32                   | 16.25       | 16.35       | 17.00         |
|           |            | 1       | 49        | 16.12                   | 16.16       | 16.21       | 17.00         |
|           |            | 25      | 0         | 16.38                   | 16.37       | 16.38       | 17.00         |
|           |            | 25      | 13        | 16.23                   | 16.24       | 16.44       | 17.00         |
|           |            | 25      | 25        | 16.30                   | 16.25       | 16.34       | 17.00         |
|           |            | 50      | 0         | 16.35                   | 16.31       | 16.33       | 17.00         |
|           | 16QAM      | 1       | 0         | 16.19                   | 16.03       | 16.28       | 17.00         |
|           |            | 1       | 25        | 16.29                   | 16.25       | 16.33       | 17.00         |
|           |            | 1       | 49        | 16.22                   | 16.21       | 16.40       | 17.00         |
|           |            | 25      | 0         | 16.26                   | 16.20       | 16.34       | 17.00         |
|           |            | 25      | 13        | 16.12                   | 16.12       | 16.22       | 17.00         |
|           |            | 25      | 25        | 16.32                   | 16.26       | 16.33       | 17.00         |
|           |            | 50      | 0         | 16.37                   | 16.30       | 16.31       | 17.00         |
|           | 64QAM      | 1       | 0         | 16.34                   | 16.23       | 16.35       | 17.00         |
|           |            | 1       | 25        | 16.30                   | 16.27       | 16.31       | 17.00         |
|           |            | 1       | 49        | 16.00                   | 16.08       | 16.20       | 17.00         |
|           |            | 25      | 0         | 16.18                   | 16.13       | 16.27       | 17.00         |
|           |            | 25      | 13        | 16.27                   | 16.10       | 16.25       | 17.00         |
|           |            | 25      | 25        | 16.17                   | 16.29       | 16.33       | 17.00         |
|           |            | 50      | 0         | 16.27                   | 16.17       | 16.31       | 17.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26775/822.5             | 26865/831.5 | 26965/841.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 16.22                   | 16.20       | 16.18       | 17.00         |



|  |       |    |    |       |       |       |       |
|--|-------|----|----|-------|-------|-------|-------|
|  |       | 1  | 38 | 16.31 | 16.21 | 16.33 | 17.00 |
|  |       | 1  | 74 | 16.10 | 16.15 | 16.18 | 17.00 |
|  |       | 36 | 0  | 16.35 | 16.32 | 16.34 | 17.00 |
|  |       | 36 | 18 | 16.21 | 16.20 | 16.41 | 17.00 |
|  |       | 36 | 39 | 16.27 | 16.20 | 16.30 | 17.00 |
|  |       | 75 | 0  | 16.32 | 16.26 | 16.29 | 17.00 |
|  | 16QAM | 1  | 0  | 16.17 | 15.99 | 16.23 | 17.00 |
|  |       | 1  | 38 | 16.25 | 16.23 | 16.29 | 17.00 |
|  |       | 1  | 74 | 16.20 | 16.18 | 16.38 | 17.00 |
|  |       | 36 | 0  | 16.23 | 16.16 | 16.31 | 17.00 |
|  |       | 36 | 18 | 16.09 | 16.10 | 16.19 | 17.00 |
|  |       | 36 | 39 | 16.29 | 16.21 | 16.29 | 17.00 |
|  |       | 75 | 0  | 16.35 | 16.26 | 16.28 | 17.00 |
|  | 64QAM | 1  | 0  | 16.32 | 16.19 | 16.30 | 17.00 |
|  |       | 1  | 38 | 16.26 | 16.25 | 16.27 | 17.00 |
|  |       | 1  | 74 | 15.98 | 16.05 | 16.18 | 17.00 |
|  |       | 36 | 0  | 16.15 | 16.09 | 16.24 | 17.00 |
|  |       | 36 | 18 | 16.24 | 16.08 | 16.22 | 17.00 |
|  |       | 36 | 39 | 16.14 | 16.24 | 16.29 | 17.00 |
|  |       | 75 | 0  | 16.25 | 16.13 | 16.28 | 17.00 |

| LTE FDD Band 26<br>(REC Off) |            |         |           | Conducted Power(dBm)    |             |             |                  |
|------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|------------------|
| Bandwidth                    | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up<br>Limit |
|                              |            |         |           | 26697/814.7             | 26865/831.5 | 27033/848.3 |                  |
| 1.4MHz                       | QPSK       | 1       | 0         | 22.74                   | 22.73       | 22.76       | 23.50            |
|                              |            | 1       | 2         | 22.71                   | 22.76       | 22.79       | 23.50            |
|                              |            | 1       | 5         | 22.64                   | 22.67       | 22.72       | 23.50            |
|                              |            | 3       | 0         | 22.78                   | 22.80       | 22.72       | 23.50            |
|                              |            | 3       | 2         | 22.70                   | 22.77       | 22.85       | 23.50            |
|                              |            | 3       | 3         | 22.82                   | 22.78       | 22.82       | 23.50            |
|                              |            | 6       | 0         | 21.80                   | 21.76       | 21.78       | 22.50            |
|                              | 16QAM      | 1       | 0         | 21.81                   | 21.84       | 22.04       | 22.50            |
|                              |            | 1       | 2         | 21.87                   | 21.85       | 21.97       | 22.50            |
|                              |            | 1       | 5         | 21.77                   | 21.87       | 21.85       | 22.50            |
|                              |            | 3       | 0         | 21.72                   | 21.70       | 21.70       | 22.50            |
|                              |            | 3       | 2         | 21.67                   | 21.66       | 21.70       | 22.50            |
|                              |            | 3       | 3         | 21.63                   | 21.71       | 21.78       | 22.50            |
|                              |            | 6       | 0         | 20.72                   | 20.73       | 20.76       | 21.50            |
|                              | 64QAM      | 1       | 0         | 21.32                   | 21.32       | 21.43       | 21.50            |
|                              |            | 1       | 2         | 21.27                   | 21.44       | 21.48       | 21.50            |
|                              |            | 1       | 5         | 21.28                   | 21.12       | 21.40       | 21.50            |
|                              |            | 3       | 0         | 21.12                   | 21.21       | 21.14       | 21.50            |



|           |            | 3       | 2         | 21.13                   | 21.29       | 21.19       | 21.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 3       | 3         | 21.07                   | 21.27       | 21.27       | 21.50         |
|           |            | 6       | 0         | 20.21                   | 20.29       | 20.24       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26705/815.5             | 26865/831.5 | 27025/847.5 |               |
| 3MHz      | QPSK       | 1       | 0         | 22.73                   | 22.75       | 22.75       | 23.50         |
|           |            | 1       | 7         | 22.72                   | 22.77       | 22.80       | 23.50         |
|           |            | 1       | 14        | 22.64                   | 22.67       | 22.72       | 23.50         |
|           |            | 8       | 0         | 21.85                   | 21.87       | 21.81       | 22.50         |
|           |            | 8       | 4         | 21.80                   | 21.83       | 21.92       | 22.50         |
|           |            | 8       | 7         | 21.90                   | 21.87       | 21.88       | 22.50         |
|           |            | 15      | 0         | 21.81                   | 21.79       | 21.79       | 22.50         |
|           | 16QAM      | 1       | 0         | 21.81                   | 21.82       | 22.04       | 22.50         |
|           |            | 1       | 7         | 21.87                   | 21.88       | 21.98       | 22.50         |
|           |            | 1       | 14        | 21.76                   | 21.89       | 21.84       | 22.50         |
|           |            | 8       | 0         | 20.81                   | 20.79       | 20.79       | 21.50         |
|           |            | 8       | 4         | 20.75                   | 20.74       | 20.78       | 21.50         |
|           |            | 8       | 7         | 20.70                   | 20.78       | 20.87       | 21.50         |
|           |            | 15      | 0         | 20.73                   | 20.73       | 20.74       | 21.50         |
|           | 64QAM      | 1       | 0         | 21.32                   | 21.30       | 21.43       | 21.50         |
|           |            | 1       | 7         | 21.27                   | 21.47       | 21.49       | 21.50         |
|           |            | 1       | 14        | 21.27                   | 21.14       | 21.39       | 21.50         |
|           |            | 8       | 0         | 20.21                   | 20.30       | 20.23       | 20.50         |
|           |            | 8       | 4         | 20.21                   | 20.37       | 20.27       | 20.50         |
|           |            | 8       | 7         | 20.14                   | 20.34       | 20.36       | 20.50         |
|           |            | 15      | 0         | 20.22                   | 20.29       | 20.22       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26715/816.5             | 26865/831.5 | 27015/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 22.75                   | 22.76       | 22.78       | 23.50         |
|           |            | 1       | 13        | 22.75                   | 22.82       | 22.84       | 23.50         |
|           |            | 1       | 24        | 22.66                   | 22.71       | 22.75       | 23.50         |
|           |            | 12      | 0         | 21.88                   | 21.92       | 21.85       | 22.50         |
|           |            | 12      | 6         | 21.83                   | 21.88       | 21.96       | 22.50         |
|           |            | 12      | 13        | 21.92                   | 21.91       | 21.93       | 22.50         |
|           |            | 25      | 0         | 21.89                   | 21.81       | 21.83       | 22.50         |
|           | 16QAM      | 1       | 0         | 21.83                   | 21.85       | 22.06       | 22.50         |
|           |            | 1       | 13        | 21.90                   | 21.92       | 22.01       | 22.50         |
|           |            | 1       | 24        | 21.79                   | 21.91       | 21.87       | 22.50         |
|           |            | 12      | 0         | 20.84                   | 20.84       | 20.83       | 21.50         |
|           |            | 12      | 6         | 20.77                   | 20.78       | 20.81       | 21.50         |
|           |            | 12      | 13        | 20.73                   | 20.83       | 20.91       | 21.50         |
|           |            | 25      | 0         | 20.76                   | 20.78       | 20.78       | 21.50         |
|           | 64QAM      | 1       | 0         | 21.34                   | 21.33       | 21.45       | 21.50         |



|           |            | 1       | 13        | 21.30                   | 21.36       | 21.37       | 21.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 1       | 24        | 21.30                   | 21.16       | 21.42       | 21.50         |
|           |            | 12      | 0         | 20.24                   | 20.35       | 20.27       | 20.50         |
|           |            | 12      | 6         | 20.23                   | 20.41       | 20.30       | 20.50         |
|           |            | 12      | 13        | 20.17                   | 20.39       | 20.40       | 20.50         |
|           |            | 25      | 0         | 20.25                   | 20.34       | 20.26       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26750/820               | 26865/831.5 | 26990/844   |               |
| 10MHz     | QPSK       | 1       | 0         | 22.74                   | 22.72       | 22.76       | 23.50         |
|           |            | 1       | 25        | 22.73                   | 22.81       | 22.81       | 23.50         |
|           |            | 1       | 49        | 22.63                   | 22.66       | 22.71       | 23.50         |
|           |            | 25      | 0         | 21.86                   | 21.88       | 21.82       | 22.50         |
|           |            | 25      | 13        | 21.80                   | 21.83       | 21.92       | 22.50         |
|           |            | 25      | 25        | 21.89                   | 21.88       | 21.89       | 22.50         |
|           |            | 50      | 0         | 21.87                   | 21.77       | 21.78       | 22.50         |
|           | 16QAM      | 1       | 0         | 21.78                   | 21.83       | 22.04       | 22.50         |
|           |            | 1       | 25        | 21.88                   | 21.89       | 21.99       | 22.50         |
|           |            | 1       | 49        | 21.76                   | 21.87       | 21.84       | 22.50         |
|           |            | 25      | 0         | 20.81                   | 20.82       | 20.80       | 21.50         |
|           |            | 25      | 13        | 20.74                   | 20.73       | 20.77       | 21.50         |
|           |            | 25      | 25        | 20.71                   | 20.79       | 20.88       | 21.50         |
|           |            | 50      | 0         | 20.73                   | 20.73       | 20.74       | 21.50         |
|           | 64QAM      | 1       | 0         | 21.29                   | 21.31       | 21.43       | 21.50         |
|           |            | 1       | 25        | 21.28                   | 21.48       | 21.50       | 21.50         |
|           |            | 1       | 49        | 21.27                   | 21.12       | 21.39       | 21.50         |
|           |            | 25      | 0         | 20.21                   | 20.33       | 20.24       | 20.50         |
|           |            | 25      | 13        | 20.20                   | 20.36       | 20.26       | 20.50         |
|           |            | 25      | 25        | 20.15                   | 20.35       | 20.37       | 20.50         |
|           |            | 50      | 0         | 20.22                   | 20.29       | 20.22       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26775/822.5             | 26865/831.5 | 26965/841.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 22.71                   | 22.68       | 22.73       | 23.50         |
|           |            | 1       | 38        | 22.72                   | 22.77       | 22.79       | 23.50         |
|           |            | 1       | 74        | 22.61                   | 22.65       | 22.68       | 23.50         |
|           |            | 36      | 0         | 21.83                   | 21.83       | 21.78       | 22.50         |
|           |            | 36      | 18        | 21.78                   | 21.79       | 21.89       | 22.50         |
|           |            | 36      | 39        | 21.86                   | 21.83       | 21.85       | 22.50         |
|           |            | 75      | 0         | 21.84                   | 21.72       | 21.74       | 22.50         |
|           | 16QAM      | 1       | 0         | 21.76                   | 21.79       | 21.99       | 22.50         |
|           |            | 1       | 38        | 21.84                   | 21.87       | 21.95       | 22.50         |
|           |            | 1       | 74        | 21.74                   | 21.84       | 21.82       | 22.50         |
|           |            | 36      | 0         | 20.78                   | 20.78       | 20.77       | 21.50         |
|           |            | 36      | 18        | 20.71                   | 20.71       | 20.74       | 21.50         |



|  |       |    |    |       |       |       |       |
|--|-------|----|----|-------|-------|-------|-------|
|  |       | 36 | 39 | 20.68 | 20.74 | 20.84 | 21.50 |
|  |       | 75 | 0  | 20.71 | 20.69 | 20.71 | 21.50 |
|  | 64QAM | 1  | 0  | 21.27 | 21.27 | 21.38 | 21.50 |
|  |       | 1  | 38 | 21.24 | 21.46 | 21.46 | 21.50 |
|  |       | 1  | 74 | 21.25 | 21.09 | 21.37 | 21.50 |
|  |       | 36 | 0  | 20.18 | 20.29 | 20.21 | 20.50 |
|  |       | 36 | 18 | 20.17 | 20.34 | 20.23 | 20.50 |
|  |       | 36 | 39 | 20.12 | 20.30 | 20.33 | 20.50 |
|  |       | 75 | 0  | 20.20 | 20.25 | 20.19 | 20.50 |

| LTE FDD Band 26<br>(REC Off+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |             |             |               |
|---------------------------------------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                       |            |         |           | 26697/814.7             | 26865/831.5 | 27033/848.3 |               |
| 1.4MHz                                | QPSK       | 1       | 0         | 19.85                   | 19.87       | 19.82       | 20.50         |
|                                       |            | 1       | 2         | 19.91                   | 19.83       | 19.95       | 20.50         |
|                                       |            | 1       | 5         | 19.68                   | 19.74       | 19.78       | 20.50         |
|                                       |            | 3       | 0         | 19.81                   | 19.91       | 19.82       | 20.50         |
|                                       |            | 3       | 2         | 19.76                   | 19.79       | 20.03       | 20.50         |
|                                       |            | 3       | 3         | 19.98                   | 19.91       | 19.90       | 20.50         |
|                                       |            | 6       | 0         | 19.78                   | 19.81       | 19.83       | 20.50         |
|                                       | 16QAM      | 1       | 0         | 20.07                   | 19.88       | 20.03       | 20.50         |
|                                       |            | 1       | 2         | 19.90                   | 19.85       | 19.94       | 20.50         |
|                                       |            | 1       | 5         | 19.94                   | 19.94       | 20.03       | 20.50         |
|                                       |            | 3       | 0         | 19.89                   | 19.82       | 19.97       | 20.50         |
|                                       |            | 3       | 2         | 19.80                   | 19.82       | 19.91       | 20.50         |
|                                       |            | 3       | 3         | 19.88                   | 19.84       | 19.90       | 20.50         |
|                                       |            | 6       | 0         | 19.82                   | 19.77       | 19.79       | 20.50         |
|                                       | 64QAM      | 1       | 0         | 19.92                   | 19.78       | 19.90       | 20.50         |
|                                       |            | 1       | 2         | 19.81                   | 19.77       | 19.82       | 20.50         |
|                                       |            | 1       | 5         | 19.81                   | 19.90       | 20.02       | 20.50         |
|                                       |            | 3       | 0         | 19.85                   | 19.79       | 19.94       | 20.50         |
|                                       |            | 3       | 2         | 19.98                   | 19.83       | 19.97       | 20.50         |
|                                       |            | 3       | 3         | 19.73                   | 19.87       | 19.90       | 20.50         |
|                                       |            | 6       | 0         | 19.95                   | 19.87       | 20.02       | 20.50         |
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|                                       |            |         |           | 26705/815.5             | 26865/831.5 | 27025/847.5 |               |
| 3MHz                                  | QPSK       | 1       | 0         | 19.82                   | 19.85       | 19.78       | 20.50         |
|                                       |            | 1       | 7         | 19.89                   | 19.79       | 19.92       | 20.50         |
|                                       |            | 1       | 14        | 19.65                   | 19.69       | 19.74       | 20.50         |
|                                       |            | 8       | 0         | 19.78                   | 19.86       | 19.78       | 20.50         |
|                                       |            | 8       | 4         | 19.74                   | 19.75       | 19.98       | 20.50         |
|                                       |            | 8       | 7         | 19.96                   | 19.89       | 19.86       | 20.50         |





|           | 16QAM      | 15      | 0         | 19.76                   | 19.80       | 19.81       | 20.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 1       | 0         | 20.04                   | 19.84       | 20.00       | 20.50         |
|           |            | 1       | 7         | 19.87                   | 19.83       | 19.91       | 20.50         |
|           |            | 1       | 14        | 19.91                   | 19.92       | 19.99       | 20.50         |
|           |            | 8       | 0         | 19.87                   | 19.78       | 19.94       | 20.50         |
|           |            | 8       | 4         | 19.77                   | 19.77       | 19.87       | 20.50         |
|           |            | 8       | 7         | 19.85                   | 19.79       | 19.86       | 20.50         |
|           |            | 15      | 0         | 19.80                   | 19.73       | 19.74       | 20.50         |
|           | 64QAM      | 1       | 0         | 19.89                   | 19.74       | 19.87       | 20.50         |
|           |            | 1       | 7         | 19.78                   | 19.75       | 19.79       | 20.50         |
|           |            | 1       | 14        | 19.78                   | 19.88       | 19.98       | 20.50         |
|           |            | 8       | 0         | 19.83                   | 19.75       | 19.91       | 20.50         |
|           |            | 8       | 4         | 19.95                   | 19.78       | 19.93       | 20.50         |
|           |            | 8       | 7         | 19.70                   | 19.82       | 19.86       | 20.50         |
|           |            | 15      | 0         | 19.93                   | 19.83       | 19.97       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26715/816.5             | 26865/831.5 | 27015/846.5 |               |
| 5MHz      | QPSK       | 1       | 0         | 19.84                   | 19.86       | 19.81       | 20.50         |
|           |            | 1       | 13        | 19.92                   | 19.84       | 19.96       | 20.50         |
|           |            | 1       | 24        | 19.67                   | 19.73       | 19.77       | 20.50         |
|           |            | 12      | 0         | 19.81                   | 19.91       | 19.82       | 20.50         |
|           |            | 12      | 6         | 19.77                   | 19.80       | 20.02       | 20.50         |
|           |            | 12      | 13        | 19.98                   | 19.93       | 19.91       | 20.50         |
|           |            | 25      | 0         | 19.84                   | 19.82       | 19.85       | 20.50         |
|           | 16QAM      | 1       | 0         | 20.06                   | 19.87       | 20.02       | 20.50         |
|           |            | 1       | 13        | 19.90                   | 19.87       | 19.94       | 20.50         |
|           |            | 1       | 24        | 19.94                   | 19.94       | 20.02       | 20.50         |
|           |            | 12      | 0         | 19.90                   | 19.83       | 19.98       | 20.50         |
|           |            | 12      | 6         | 19.79                   | 19.81       | 19.90       | 20.50         |
|           |            | 12      | 13        | 19.88                   | 19.84       | 19.90       | 20.50         |
|           |            | 25      | 0         | 19.83                   | 19.78       | 19.78       | 20.50         |
|           | 64QAM      | 1       | 0         | 19.91                   | 19.77       | 19.89       | 20.50         |
|           |            | 1       | 13        | 19.81                   | 19.79       | 19.82       | 20.50         |
|           |            | 1       | 24        | 19.81                   | 19.90       | 20.01       | 20.50         |
|           |            | 12      | 0         | 19.86                   | 19.80       | 19.95       | 20.50         |
|           |            | 12      | 6         | 19.97                   | 19.82       | 19.96       | 20.50         |
|           |            | 12      | 13        | 19.73                   | 19.87       | 19.90       | 20.50         |
|           |            | 25      | 0         | 19.96                   | 19.88       | 20.01       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26750/820               | 26865/831.5 | 26990/844   |               |
| 10MHz     | QPSK       | 1       | 0         | 19.83                   | 19.82       | 19.79       | 20.50         |
|           |            | 1       | 25        | 19.90                   | 19.83       | 19.93       | 20.50         |
|           |            | 1       | 49        | 19.64                   | 19.68       | 19.73       | 20.50         |



|           |            | 25      | 0         | 19.79                   | 19.87       | 19.79       | 20.50         |
|-----------|------------|---------|-----------|-------------------------|-------------|-------------|---------------|
|           |            | 25      | 13        | 19.74                   | 19.75       | 19.98       | 20.50         |
|           |            | 25      | 25        | 19.95                   | 19.90       | 19.87       | 20.50         |
|           |            | 50      | 0         | 19.82                   | 19.78       | 19.80       | 20.50         |
|           | 16QAM      | 1       | 0         | 20.01                   | 19.85       | 20.00       | 20.50         |
|           |            | 1       | 25        | 19.88                   | 19.84       | 19.92       | 20.50         |
|           |            | 1       | 49        | 19.91                   | 19.90       | 19.99       | 20.50         |
|           |            | 25      | 0         | 19.87                   | 19.81       | 19.95       | 20.50         |
|           |            | 25      | 13        | 19.76                   | 19.76       | 19.86       | 20.50         |
|           |            | 25      | 25        | 19.86                   | 19.80       | 19.87       | 20.50         |
|           |            | 50      | 0         | 19.80                   | 19.73       | 19.74       | 20.50         |
|           | 64QAM      | 1       | 0         | 19.86                   | 19.75       | 19.87       | 20.50         |
|           |            | 1       | 25        | 19.79                   | 19.76       | 19.80       | 20.50         |
|           |            | 1       | 49        | 19.78                   | 19.86       | 19.98       | 20.50         |
|           |            | 25      | 0         | 19.83                   | 19.78       | 19.92       | 20.50         |
|           |            | 25      | 13        | 19.94                   | 19.77       | 19.92       | 20.50         |
|           |            | 25      | 25        | 19.71                   | 19.83       | 19.87       | 20.50         |
|           |            | 50      | 0         | 19.93                   | 19.83       | 19.97       | 20.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |             |             | Tune-up Limit |
|           |            |         |           | 26775/822.5             | 26865/831.5 | 26965/841.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 19.80                   | 19.78       | 19.76       | 20.50         |
|           |            | 1       | 38        | 19.89                   | 19.79       | 19.91       | 20.50         |
|           |            | 1       | 74        | 19.62                   | 19.67       | 19.70       | 20.50         |
|           |            | 36      | 0         | 19.76                   | 19.82       | 19.75       | 20.50         |
|           |            | 36      | 18        | 19.72                   | 19.71       | 19.95       | 20.50         |
|           |            | 36      | 39        | 19.92                   | 19.85       | 19.83       | 20.50         |
|           |            | 75      | 0         | 19.79                   | 19.73       | 19.76       | 20.50         |
|           | 16QAM      | 1       | 0         | 19.99                   | 19.81       | 19.95       | 20.50         |
|           |            | 1       | 38        | 19.84                   | 19.82       | 19.88       | 20.50         |
|           |            | 1       | 74        | 19.89                   | 19.87       | 19.97       | 20.50         |
|           |            | 36      | 0         | 19.84                   | 19.77       | 19.92       | 20.50         |
|           |            | 36      | 18        | 19.73                   | 19.74       | 19.83       | 20.50         |
|           |            | 36      | 39        | 19.83                   | 19.75       | 19.83       | 20.50         |
|           |            | 75      | 0         | 19.78                   | 19.69       | 19.71       | 20.50         |
|           | 64QAM      | 1       | 0         | 19.84                   | 19.71       | 19.82       | 20.50         |
|           |            | 1       | 38        | 19.75                   | 19.74       | 19.76       | 20.50         |
|           |            | 1       | 74        | 19.76                   | 19.83       | 19.96       | 20.50         |
|           |            | 36      | 0         | 19.80                   | 19.74       | 19.89       | 20.50         |
|           |            | 36      | 18        | 19.91                   | 19.75       | 19.89       | 20.50         |
|           |            | 36      | 39        | 19.68                   | 19.78       | 19.83       | 20.50         |
|           |            | 75      | 0         | 19.91                   | 19.79       | 19.94       | 20.50         |



| LTE TDD Band 38<br>(REC On+Left Head) |            |         |           | Conducted Power(dBm)    |            |              |               |
|---------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                       |            |         |           | 37775/2572.5            | 38000/2595 | 38225/2617.5 |               |
| 5MHz                                  | QPSK       | 1       | 0         | 21.12                   | 21.18      | 21.18        | 22.00         |
|                                       |            | 1       | 13        | 21.16                   | 21.16      | 21.18        | 22.00         |
|                                       |            | 1       | 24        | 21.20                   | 21.23      | 21.32        | 22.00         |
|                                       |            | 12      | 0         | 21.05                   | 21.16      | 21.13        | 22.00         |
|                                       |            | 12      | 6         | 21.13                   | 21.08      | 21.10        | 22.00         |
|                                       |            | 12      | 13        | 21.11                   | 21.18      | 21.26        | 22.00         |
|                                       |            | 25      | 0         | 21.05                   | 21.16      | 21.25        | 22.00         |
|                                       | 16QAM      | 1       | 0         | 21.09                   | 21.36      | 21.26        | 22.00         |
|                                       |            | 1       | 13        | 20.97                   | 21.22      | 21.08        | 22.00         |
|                                       |            | 1       | 24        | 21.05                   | 21.20      | 21.30        | 22.00         |
|                                       |            | 12      | 0         | 21.08                   | 21.03      | 21.07        | 22.00         |
|                                       |            | 12      | 6         | 21.02                   | 21.13      | 21.08        | 22.00         |
|                                       |            | 12      | 13        | 21.09                   | 21.08      | 21.20        | 22.00         |
|                                       |            | 25      | 0         | 21.05                   | 21.13      | 21.13        | 22.00         |
|                                       | 64QAM      | 1       | 0         | 21.20                   | 21.08      | 21.29        | 22.00         |
|                                       |            | 1       | 13        | 20.94                   | 20.93      | 21.00        | 22.00         |
|                                       |            | 1       | 24        | 21.10                   | 21.08      | 21.32        | 22.00         |
|                                       |            | 12      | 0         | 20.78                   | 20.83      | 20.83        | 21.00         |
|                                       |            | 12      | 6         | 20.90                   | 20.89      | 20.94        | 21.00         |
|                                       |            | 12      | 13        | 20.86                   | 20.93      | 20.86        | 21.00         |
|                                       |            | 25      | 0         | 20.85                   | 20.91      | 20.95        | 21.00         |
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                       |            |         |           | 37800/2575              | 38000/2595 | 38200/2615   |               |
| 10MHz                                 | QPSK       | 1       | 0         | 21.14                   | 21.19      | 21.21        | 22.00         |
|                                       |            | 1       | 25        | 21.19                   | 21.21      | 21.22        | 22.00         |
|                                       |            | 1       | 49        | 21.22                   | 21.27      | 21.35        | 22.00         |
|                                       |            | 25      | 0         | 21.08                   | 21.21      | 21.17        | 22.00         |
|                                       |            | 25      | 13        | 21.16                   | 21.13      | 21.14        | 22.00         |
|                                       |            | 25      | 25        | 21.13                   | 21.22      | 21.31        | 22.00         |
|                                       |            | 50      | 0         | 21.13                   | 21.18      | 21.29        | 22.00         |
|                                       | 16QAM      | 1       | 0         | 21.11                   | 21.39      | 21.28        | 22.00         |
|                                       |            | 1       | 25        | 21.00                   | 21.26      | 21.11        | 22.00         |
|                                       |            | 1       | 49        | 21.08                   | 21.22      | 21.33        | 22.00         |
|                                       |            | 25      | 0         | 21.11                   | 21.08      | 21.11        | 22.00         |
|                                       |            | 25      | 13        | 21.04                   | 21.17      | 21.11        | 22.00         |
|                                       |            | 25      | 25        | 21.12                   | 21.13      | 21.24        | 22.00         |
|                                       |            | 50      | 0         | 21.08                   | 21.18      | 21.17        | 22.00         |
|                                       | 64QAM      | 1       | 0         | 21.22                   | 21.11      | 21.31        | 22.00         |
|                                       |            | 1       | 25        | 20.97                   | 20.97      | 21.03        | 22.00         |



|           |            | 1       | 49        | 21.13                   | 21.10      | 21.35        | 22.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 25      | 0         | 20.81                   | 20.88      | 20.87        | 21.00         |
|           |            | 25      | 13        | 20.92                   | 20.93      | 20.97        | 21.00         |
|           |            | 25      | 25        | 20.89                   | 20.98      | 20.84        | 21.00         |
|           |            | 50      | 0         | 20.88                   | 20.96      | 20.99        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 37825/2577.5            | 38000/2595 | 38175/2612.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 21.13                   | 21.15      | 21.19        | 22.00         |
|           |            | 1       | 38        | 21.17                   | 21.20      | 21.19        | 22.00         |
|           |            | 1       | 74        | 21.19                   | 21.22      | 21.31        | 22.00         |
|           |            | 36      | 0         | 21.06                   | 21.17      | 21.14        | 22.00         |
|           |            | 36      | 18        | 21.13                   | 21.08      | 21.10        | 22.00         |
|           |            | 36      | 39        | 21.10                   | 21.19      | 21.27        | 22.00         |
|           |            | 75      | 0         | 21.11                   | 21.14      | 21.24        | 22.00         |
|           | 16QAM      | 1       | 0         | 21.06                   | 21.37      | 21.26        | 22.00         |
|           |            | 1       | 38        | 20.98                   | 21.23      | 21.09        | 22.00         |
|           |            | 1       | 74        | 21.05                   | 21.18      | 21.30        | 22.00         |
|           |            | 36      | 0         | 21.08                   | 21.06      | 21.08        | 22.00         |
|           |            | 36      | 18        | 21.01                   | 21.12      | 21.07        | 22.00         |
|           |            | 36      | 39        | 21.10                   | 21.09      | 21.21        | 22.00         |
|           |            | 75      | 0         | 21.05                   | 21.13      | 21.13        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.17                   | 21.09      | 21.29        | 22.00         |
|           |            | 1       | 38        | 20.95                   | 20.94      | 21.01        | 22.00         |
|           |            | 1       | 74        | 21.10                   | 21.06      | 21.32        | 22.00         |
|           |            | 36      | 0         | 20.78                   | 20.86      | 20.84        | 21.00         |
|           |            | 36      | 18        | 20.89                   | 20.88      | 20.93        | 21.00         |
|           |            | 36      | 39        | 20.87                   | 20.94      | 20.84        | 21.00         |
|           |            | 75      | 0         | 20.85                   | 20.91      | 20.95        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 37850/2580              | 38000/2595 | 38150/2610   |               |
| 20MHz     | QPSK       | 1       | 0         | 21.10                   | 21.11      | 21.16        | 22.00         |
|           |            | 1       | 50        | 21.16                   | 21.16      | 21.17        | 22.00         |
|           |            | 1       | 99        | 21.17                   | 21.21      | 21.28        | 22.00         |
|           |            | 50      | 0         | 21.03                   | 21.12      | 21.10        | 22.00         |
|           |            | 50      | 25        | 21.11                   | 21.04      | 21.07        | 22.00         |
|           |            | 50      | 50        | 21.07                   | 21.14      | 21.23        | 22.00         |
|           |            | 100     | 0         | 21.08                   | 21.09      | 21.20        | 22.00         |
|           | 16QAM      | 1       | 0         | 21.04                   | 21.33      | 21.21        | 22.00         |
|           |            | 1       | 50        | 20.94                   | 21.21      | 21.05        | 22.00         |
|           |            | 1       | 99        | 21.03                   | 21.15      | 21.28        | 22.00         |
|           |            | 50      | 0         | 21.05                   | 21.02      | 21.05        | 22.00         |
|           |            | 50      | 25        | 20.98                   | 21.10      | 21.04        | 22.00         |
|           |            | 50      | 50        | 21.07                   | 21.04      | 21.17        | 22.00         |



|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  |       | 100 | 0  | 21.03 | 21.09 | 21.10 | 22.00 |
|  | 64QAM | 1   | 0  | 21.15 | 21.05 | 21.24 | 22.00 |
|  |       | 1   | 50 | 20.91 | 20.92 | 20.97 | 22.00 |
|  |       | 1   | 99 | 21.08 | 21.03 | 21.30 | 22.00 |
|  |       | 50  | 0  | 20.75 | 20.82 | 20.81 | 21.00 |
|  |       | 50  | 25 | 20.86 | 20.86 | 20.90 | 21.00 |
|  |       | 50  | 50 | 20.84 | 20.89 | 20.93 | 21.00 |
|  |       | 100 | 0  | 20.83 | 20.87 | 20.92 | 21.00 |

| LTE TDD Band 38<br>(REC On+Right Head) |            |         |           | Conducted Power(dBm)    |            |              |               |
|----------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                              | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                        |            |         |           | 37775/2572.5            | 38000/2595 | 38225/2617.5 |               |
| 5MHz                                   | QPSK       | 1       | 0         | 14.99                   | 15.41      | 15.85        | 16.00         |
|                                        |            | 1       | 13        | 14.99                   | 15.66      | 15.80        | 16.00         |
|                                        |            | 1       | 24        | 15.60                   | 15.48      | 15.53        | 16.00         |
|                                        |            | 12      | 0         | 14.84                   | 15.54      | 15.84        | 16.00         |
|                                        |            | 12      | 6         | 14.88                   | 15.67      | 15.60        | 16.00         |
|                                        |            | 12      | 13        | 15.03                   | 15.70      | 15.67        | 16.00         |
|                                        |            | 25      | 0         | 14.88                   | 15.70      | 15.76        | 16.00         |
|                                        | 16QAM      | 1       | 0         | 14.82                   | 15.38      | 15.96        | 16.00         |
|                                        |            | 1       | 13        | 14.98                   | 15.55      | 15.89        | 16.00         |
|                                        |            | 1       | 24        | 15.45                   | 15.66      | 15.65        | 16.00         |
|                                        |            | 12      | 0         | 14.90                   | 15.42      | 15.81        | 16.00         |
|                                        |            | 12      | 6         | 14.90                   | 15.67      | 15.56        | 16.00         |
|                                        |            | 12      | 13        | 14.90                   | 15.64      | 15.58        | 16.00         |
|                                        |            | 25      | 0         | 14.91                   | 15.58      | 15.54        | 16.00         |
|                                        | 64QAM      | 1       | 0         | 14.79                   | 15.30      | 15.66        | 16.00         |
|                                        |            | 1       | 13        | 15.10                   | 15.68      | 15.65        | 16.00         |
|                                        |            | 1       | 24        | 15.58                   | 15.49      | 15.47        | 16.00         |
|                                        |            | 12      | 0         | 14.81                   | 15.38      | 15.65        | 16.00         |
|                                        |            | 12      | 6         | 14.86                   | 15.59      | 15.46        | 16.00         |
|                                        |            | 12      | 13        | 14.93                   | 15.61      | 15.42        | 16.00         |
|                                        |            | 25      | 0         | 14.87                   | 15.62      | 15.57        | 16.00         |
| Bandwidth                              | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                        |            |         |           | 37800/2575              | 38000/2595 | 38200/2615   |               |
| 10MHz                                  | QPSK       | 1       | 0         | 15.01                   | 15.42      | 15.88        | 16.00         |
|                                        |            | 1       | 25        | 15.02                   | 15.71      | 15.84        | 16.00         |
|                                        |            | 1       | 49        | 15.62                   | 15.52      | 15.56        | 16.00         |
|                                        |            | 25      | 0         | 14.87                   | 15.59      | 15.88        | 16.00         |
|                                        |            | 25      | 13        | 14.91                   | 15.72      | 15.64        | 16.00         |
|                                        |            | 25      | 25        | 15.05                   | 15.74      | 15.72        | 16.00         |
|                                        |            | 50      | 0         | 14.96                   | 15.72      | 15.80        | 16.00         |



|           | 16QAM      | 1       | 0         | 14.84                   | 15.41      | 15.98        | 16.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 1       | 25        | 15.01                   | 15.59      | 15.92        | 16.00         |
|           |            | 1       | 49        | 15.48                   | 15.68      | 15.68        | 16.00         |
|           |            | 25      | 0         | 14.93                   | 15.47      | 15.85        | 16.00         |
|           |            | 25      | 13        | 14.92                   | 15.71      | 15.59        | 16.00         |
|           |            | 25      | 25        | 14.93                   | 15.69      | 15.62        | 16.00         |
|           |            | 50      | 0         | 14.94                   | 15.63      | 15.58        | 16.00         |
|           | 64QAM      | 1       | 0         | 14.81                   | 15.33      | 15.68        | 16.00         |
|           |            | 1       | 25        | 15.13                   | 15.72      | 15.68        | 16.00         |
|           |            | 1       | 49        | 15.61                   | 15.51      | 15.50        | 16.00         |
|           |            | 25      | 0         | 14.84                   | 15.43      | 15.69        | 16.00         |
|           |            | 25      | 13        | 14.88                   | 15.63      | 15.49        | 16.00         |
|           |            | 25      | 25        | 14.96                   | 15.66      | 15.46        | 16.00         |
|           |            | 50      | 0         | 14.90                   | 15.67      | 15.61        | 16.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 37825/2577.5            | 38000/2595 | 38175/2612.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 15.00                   | 15.38      | 15.86        | 16.00         |
|           |            | 1       | 38        | 15.00                   | 15.70      | 15.81        | 16.00         |
|           |            | 1       | 74        | 15.59                   | 15.47      | 15.52        | 16.00         |
|           |            | 36      | 0         | 14.85                   | 15.55      | 15.85        | 16.00         |
|           |            | 36      | 18        | 14.88                   | 15.67      | 15.60        | 16.00         |
|           |            | 36      | 39        | 15.02                   | 15.71      | 15.68        | 16.00         |
|           |            | 75      | 0         | 14.94                   | 15.68      | 15.75        | 16.00         |
|           | 16QAM      | 1       | 0         | 14.79                   | 15.39      | 15.96        | 16.00         |
|           |            | 1       | 38        | 14.99                   | 15.56      | 15.90        | 16.00         |
|           |            | 1       | 74        | 15.45                   | 15.64      | 15.65        | 16.00         |
|           |            | 36      | 0         | 14.90                   | 15.45      | 15.82        | 16.00         |
|           |            | 36      | 18        | 14.89                   | 15.66      | 15.55        | 16.00         |
|           |            | 36      | 39        | 14.91                   | 15.65      | 15.59        | 16.00         |
|           |            | 75      | 0         | 14.91                   | 15.58      | 15.54        | 16.00         |
|           | 64QAM      | 1       | 0         | 14.76                   | 15.31      | 15.66        | 16.00         |
|           |            | 1       | 38        | 15.11                   | 15.69      | 15.66        | 16.00         |
|           |            | 1       | 74        | 15.58                   | 15.47      | 15.47        | 16.00         |
|           |            | 36      | 0         | 14.81                   | 15.41      | 15.66        | 16.00         |
|           |            | 36      | 18        | 14.85                   | 15.58      | 15.45        | 16.00         |
|           |            | 36      | 39        | 14.94                   | 15.62      | 15.43        | 16.00         |
|           |            | 75      | 0         | 14.87                   | 15.62      | 15.57        | 16.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 37850/2580              | 38000/2595 | 38150/2610   |               |
| 20MHz     | QPSK       | 1       | 0         | 14.97                   | 15.34      | 15.83        | 16.00         |
|           |            | 1       | 50        | 14.99                   | 15.66      | 15.79        | 16.00         |
|           |            | 1       | 99        | 15.57                   | 15.46      | 15.49        | 16.00         |
|           |            | 50      | 0         | 14.82                   | 15.50      | 15.81        | 16.00         |



|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  |       | 50  | 25 | 14.86 | 15.63 | 15.57 | 16.00 |
|  |       | 50  | 50 | 14.99 | 15.66 | 15.64 | 16.00 |
|  |       | 100 | 0  | 14.91 | 15.63 | 15.71 | 16.00 |
|  | 16QAM | 1   | 0  | 14.77 | 15.35 | 15.91 | 16.00 |
|  |       | 1   | 50 | 14.95 | 15.54 | 15.86 | 16.00 |
|  |       | 1   | 99 | 15.43 | 15.61 | 15.63 | 16.00 |
|  |       | 50  | 0  | 14.87 | 15.41 | 15.79 | 16.00 |
|  |       | 50  | 25 | 14.86 | 15.64 | 15.52 | 16.00 |
|  |       | 50  | 50 | 14.88 | 15.60 | 15.55 | 16.00 |
|  |       | 100 | 0  | 14.89 | 15.54 | 15.51 | 16.00 |
|  | 64QAM | 1   | 0  | 14.74 | 15.27 | 15.61 | 16.00 |
|  |       | 1   | 50 | 15.07 | 15.67 | 15.62 | 16.00 |
|  |       | 1   | 99 | 15.56 | 15.44 | 15.45 | 16.00 |
|  |       | 50  | 0  | 14.78 | 15.37 | 15.63 | 16.00 |
|  |       | 50  | 25 | 14.82 | 15.56 | 15.42 | 16.00 |
|  |       | 50  | 50 | 14.91 | 15.57 | 15.39 | 16.00 |
|  |       | 100 | 0  | 14.85 | 15.58 | 15.54 | 16.00 |

| LTE TDD Band 38<br>(REC On+Left Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |            |              |               |
|------------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                                |            |         |           | 37775/2572.5            | 38000/2595 | 38225/2617.5 |               |
| 5MHz                                           | QPSK       | 1       | 0         | 17.07                   | 17.13      | 17.13        | 18.00         |
|                                                |            | 1       | 13        | 17.05                   | 17.05      | 17.07        | 18.00         |
|                                                |            | 1       | 24        | 17.13                   | 17.16      | 17.25        | 18.00         |
|                                                |            | 12      | 0         | 16.98                   | 17.09      | 17.06        | 18.00         |
|                                                |            | 12      | 6         | 17.15                   | 17.10      | 17.12        | 18.00         |
|                                                |            | 12      | 13        | 17.10                   | 17.17      | 17.25        | 18.00         |
|                                                |            | 25      | 0         | 17.08                   | 17.19      | 17.28        | 18.00         |
|                                                | 16QAM      | 1       | 0         | 16.83                   | 17.10      | 17.00        | 18.00         |
|                                                |            | 1       | 13        | 16.53                   | 16.78      | 16.64        | 18.00         |
|                                                |            | 1       | 24        | 17.07                   | 17.22      | 17.32        | 18.00         |
|                                                |            | 12      | 0         | 17.04                   | 16.99      | 17.03        | 18.00         |
|                                                |            | 12      | 6         | 16.93                   | 17.04      | 16.99        | 18.00         |
|                                                |            | 12      | 13        | 17.13                   | 17.12      | 17.24        | 18.00         |
|                                                |            | 25      | 0         | 17.06                   | 17.14      | 17.14        | 18.00         |
|                                                | 64QAM      | 1       | 0         | 17.12                   | 17.00      | 17.21        | 18.00         |
|                                                |            | 1       | 13        | 16.80                   | 16.79      | 16.86        | 18.00         |
|                                                |            | 1       | 24        | 17.10                   | 17.08      | 17.32        | 18.00         |
|                                                |            | 12      | 0         | 16.96                   | 17.01      | 17.01        | 18.00         |
|                                                |            | 12      | 6         | 17.01                   | 17.00      | 17.05        | 18.00         |
|                                                |            | 12      | 13        | 16.99                   | 17.06      | 17.14        | 18.00         |
|                                                |            | 25      | 0         | 17.01                   | 17.07      | 17.11        | 18.00         |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            |         |           | 37800/2575              | 38000/2595 | 38200/2615   |               |
| 10MHz     | QPSK       | 1       | 0         | 17.09                   | 17.14      | 17.16        | 18.00         |
|           |            | 1       | 25        | 17.08                   | 17.10      | 17.11        | 18.00         |
|           |            | 1       | 49        | 17.15                   | 17.20      | 17.28        | 18.00         |
|           |            | 25      | 0         | 17.01                   | 17.14      | 17.10        | 18.00         |
|           |            | 25      | 13        | 17.18                   | 17.15      | 17.16        | 18.00         |
|           |            | 25      | 25        | 17.12                   | 17.21      | 17.30        | 18.00         |
|           |            | 50      | 0         | 17.16                   | 17.21      | 17.32        | 18.00         |
|           | 16QAM      | 1       | 0         | 16.85                   | 17.13      | 17.02        | 18.00         |
|           |            | 1       | 25        | 16.56                   | 16.82      | 16.67        | 18.00         |
|           |            | 1       | 49        | 17.10                   | 17.24      | 17.35        | 18.00         |
|           |            | 25      | 0         | 17.07                   | 17.04      | 17.07        | 18.00         |
|           |            | 25      | 13        | 16.95                   | 17.08      | 17.02        | 18.00         |
|           |            | 25      | 25        | 17.16                   | 17.17      | 17.28        | 18.00         |
|           |            | 50      | 0         | 17.09                   | 17.19      | 17.18        | 18.00         |
|           | 64QAM      | 1       | 0         | 17.14                   | 17.03      | 17.23        | 18.00         |
|           |            | 1       | 25        | 16.83                   | 16.83      | 16.89        | 18.00         |
|           |            | 1       | 49        | 17.13                   | 17.10      | 17.35        | 18.00         |
|           |            | 25      | 0         | 16.99                   | 17.06      | 17.05        | 18.00         |
|           |            | 25      | 13        | 17.03                   | 17.04      | 17.08        | 18.00         |
|           |            | 25      | 25        | 17.02                   | 17.11      | 17.18        | 18.00         |
|           |            | 50      | 0         | 17.04                   | 17.12      | 17.15        | 18.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 37825/2577.5            | 38000/2595 | 38175/2612.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 17.08                   | 17.10      | 17.14        | 18.00         |
|           |            | 1       | 38        | 17.06                   | 17.09      | 17.08        | 18.00         |
|           |            | 1       | 74        | 17.12                   | 17.15      | 17.24        | 18.00         |
|           |            | 36      | 0         | 16.99                   | 17.10      | 17.07        | 18.00         |
|           |            | 36      | 18        | 17.15                   | 17.10      | 17.12        | 18.00         |
|           |            | 36      | 39        | 17.09                   | 17.18      | 17.26        | 18.00         |
|           |            | 75      | 0         | 17.14                   | 17.17      | 17.27        | 18.00         |
|           | 16QAM      | 1       | 0         | 16.80                   | 17.11      | 17.00        | 18.00         |
|           |            | 1       | 38        | 16.54                   | 16.79      | 16.65        | 18.00         |
|           |            | 1       | 74        | 17.07                   | 17.20      | 17.32        | 18.00         |
|           |            | 36      | 0         | 17.04                   | 17.02      | 17.04        | 18.00         |
|           |            | 36      | 18        | 16.92                   | 17.03      | 16.98        | 18.00         |
|           |            | 36      | 39        | 17.14                   | 17.13      | 17.25        | 18.00         |
|           |            | 75      | 0         | 17.06                   | 17.14      | 17.14        | 18.00         |
|           | 64QAM      | 1       | 0         | 17.09                   | 17.01      | 17.21        | 18.00         |
|           |            | 1       | 38        | 16.81                   | 16.80      | 16.87        | 18.00         |
|           |            | 1       | 74        | 17.10                   | 17.06      | 17.32        | 18.00         |
|           |            | 36      | 0         | 16.96                   | 17.04      | 17.02        | 18.00         |





|           |            | 36      | 18        | 17.00                   | 16.99      | 17.04      | 18.00         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 36      | 39        | 17.00                   | 17.07      | 17.15      | 18.00         |
|           |            | 75      | 0         | 17.01                   | 17.07      | 17.11      | 18.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 37850/2580              | 38000/2595 | 38150/2610 |               |
| 20MHz     | QPSK       | 1       | 0         | 17.05                   | 17.06      | 17.11      | 18.00         |
|           |            | 1       | 50        | 17.05                   | 17.05      | 17.06      | 18.00         |
|           |            | 1       | 99        | 17.10                   | 17.14      | 17.21      | 18.00         |
|           |            | 50      | 0         | 16.96                   | 17.05      | 17.03      | 18.00         |
|           |            | 50      | 25        | 17.13                   | 17.06      | 17.09      | 18.00         |
|           |            | 50      | 50        | 17.06                   | 17.13      | 17.22      | 18.00         |
|           |            | 100     | 0         | 17.11                   | 17.12      | 17.23      | 18.00         |
|           | 16QAM      | 1       | 0         | 16.78                   | 17.07      | 16.95      | 18.00         |
|           |            | 1       | 50        | 16.50                   | 16.77      | 16.61      | 18.00         |
|           |            | 1       | 99        | 17.05                   | 17.17      | 17.30      | 18.00         |
|           |            | 50      | 0         | 17.01                   | 16.98      | 17.01      | 18.00         |
|           |            | 50      | 25        | 16.89                   | 17.01      | 16.95      | 18.00         |
|           |            | 50      | 50        | 17.11                   | 17.08      | 17.21      | 18.00         |
|           |            | 100     | 0         | 17.04                   | 17.10      | 17.11      | 18.00         |
|           | 64QAM      | 1       | 0         | 17.07                   | 16.97      | 17.16      | 18.00         |
|           |            | 1       | 50        | 16.77                   | 16.78      | 16.83      | 18.00         |
|           |            | 1       | 99        | 17.08                   | 17.03      | 17.30      | 18.00         |
|           |            | 50      | 0         | 16.93                   | 17.00      | 16.99      | 18.00         |
|           |            | 50      | 25        | 16.97                   | 16.97      | 17.01      | 18.00         |
|           |            | 50      | 50        | 16.97                   | 17.02      | 17.11      | 18.00         |
|           |            | 100     | 0         | 16.99                   | 17.03      | 17.08      | 18.00         |

| LTE TDD Band 38<br>(REC On+Right Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |            |              |               |
|-------------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                                 |            |         |           | 37775/2572.5            | 38000/2595 | 38225/2617.5 |               |
| 5MHz                                            | QPSK       | 1       | 0         | 11.32                   | 11.38      | 11.38        | 12.00         |
|                                                 |            | 1       | 13        | 11.73                   | 11.73      | 11.75        | 12.00         |
|                                                 |            | 1       | 24        | 11.49                   | 11.52      | 11.61        | 12.00         |
|                                                 |            | 12      | 0         | 11.57                   | 11.68      | 11.65        | 12.00         |
|                                                 |            | 12      | 6         | 11.77                   | 11.72      | 11.74        | 12.00         |
|                                                 |            | 12      | 13        | 11.67                   | 11.74      | 11.82        | 12.00         |
|                                                 |            | 25      | 0         | 11.60                   | 11.71      | 11.80        | 12.00         |
|                                                 | 16QAM      | 1       | 0         | 11.35                   | 11.62      | 11.52        | 12.00         |
|                                                 |            | 1       | 13        | 11.46                   | 11.71      | 11.57        | 12.00         |
|                                                 |            | 1       | 24        | 11.56                   | 11.71      | 11.81        | 12.00         |
|                                                 |            | 12      | 0         | 11.62                   | 11.57      | 11.61        | 12.00         |
|                                                 |            | 12      | 6         | 11.51                   | 11.62      | 11.57        | 12.00         |



|           |            | 12      | 13        | 11.67                   | 11.66      | 11.78        | 12.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 25      | 0         | 11.54                   | 11.62      | 11.62        | 12.00         |
|           | 64QAM      | 1       | 0         | 11.62                   | 11.50      | 11.71        | 12.00         |
|           |            | 1       | 13        | 11.78                   | 11.77      | 11.84        | 12.00         |
|           |            | 1       | 24        | 11.74                   | 11.72      | 11.96        | 12.00         |
|           |            | 12      | 0         | 11.53                   | 11.58      | 11.58        | 12.00         |
|           |            | 12      | 6         | 11.65                   | 11.64      | 11.69        | 12.00         |
|           |            | 12      | 13        | 11.60                   | 11.67      | 11.75        | 12.00         |
|           |            | 25      | 0         | 11.50                   | 11.56      | 11.60        | 12.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 37800/2575              | 38000/2595 | 38200/2615   |               |
| 10MHz     | QPSK       | 1       | 0         | 11.34                   | 11.39      | 11.41        | 12.00         |
|           |            | 1       | 25        | 11.76                   | 11.78      | 11.79        | 12.00         |
|           |            | 1       | 49        | 11.51                   | 11.56      | 11.64        | 12.00         |
|           |            | 25      | 0         | 11.60                   | 11.73      | 11.69        | 12.00         |
|           |            | 25      | 13        | 11.80                   | 11.77      | 11.78        | 12.00         |
|           |            | 25      | 25        | 11.69                   | 11.78      | 11.87        | 12.00         |
|           |            | 50      | 0         | 11.68                   | 11.73      | 11.84        | 12.00         |
|           | 16QAM      | 1       | 0         | 11.37                   | 11.65      | 11.54        | 12.00         |
|           |            | 1       | 25        | 11.49                   | 11.75      | 11.60        | 12.00         |
|           |            | 1       | 49        | 11.59                   | 11.73      | 11.84        | 12.00         |
|           |            | 25      | 0         | 11.65                   | 11.62      | 11.65        | 12.00         |
|           |            | 25      | 13        | 11.53                   | 11.66      | 11.60        | 12.00         |
|           |            | 25      | 25        | 11.70                   | 11.71      | 11.82        | 12.00         |
|           |            | 50      | 0         | 11.57                   | 11.67      | 11.66        | 12.00         |
|           | 64QAM      | 1       | 0         | 11.64                   | 11.53      | 11.73        | 12.00         |
|           |            | 1       | 25        | 11.81                   | 11.81      | 11.87        | 12.00         |
|           |            | 1       | 49        | 11.77                   | 11.74      | 11.99        | 12.00         |
|           |            | 25      | 0         | 11.56                   | 11.63      | 11.62        | 12.00         |
|           |            | 25      | 13        | 11.67                   | 11.68      | 11.72        | 12.00         |
|           |            | 25      | 25        | 11.63                   | 11.72      | 11.79        | 12.00         |
|           |            | 50      | 0         | 11.53                   | 11.61      | 11.64        | 12.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 37825/2577.5            | 38000/2595 | 38175/2612.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 11.33                   | 11.35      | 11.39        | 12.00         |
|           |            | 1       | 38        | 11.74                   | 11.77      | 11.76        | 12.00         |
|           |            | 1       | 74        | 11.48                   | 11.51      | 11.60        | 12.00         |
|           |            | 36      | 0         | 11.58                   | 11.69      | 11.66        | 12.00         |
|           |            | 36      | 18        | 11.77                   | 11.72      | 11.74        | 12.00         |
|           |            | 36      | 39        | 11.66                   | 11.75      | 11.83        | 12.00         |
|           |            | 75      | 0         | 11.66                   | 11.69      | 11.79        | 12.00         |
|           | 16QAM      | 1       | 0         | 11.32                   | 11.63      | 11.52        | 12.00         |
|           |            | 1       | 38        | 11.47                   | 11.72      | 11.58        | 12.00         |



|           |            | 1       | 74        | 11.56                   | 11.69      | 11.81      | 12.00         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 36      | 0         | 11.62                   | 11.60      | 11.62      | 12.00         |
|           |            | 36      | 18        | 11.50                   | 11.61      | 11.56      | 12.00         |
|           |            | 36      | 39        | 11.68                   | 11.67      | 11.79      | 12.00         |
|           |            | 75      | 0         | 11.54                   | 11.62      | 11.62      | 12.00         |
|           | 64QAM      | 1       | 0         | 11.59                   | 11.51      | 11.71      | 12.00         |
|           |            | 1       | 38        | 11.79                   | 11.78      | 11.85      | 12.00         |
|           |            | 1       | 74        | 11.74                   | 11.70      | 11.96      | 12.00         |
|           |            | 36      | 0         | 11.53                   | 11.61      | 11.59      | 12.00         |
|           |            | 36      | 18        | 11.64                   | 11.63      | 11.68      | 12.00         |
|           |            | 36      | 39        | 11.61                   | 11.68      | 11.76      | 12.00         |
|           |            | 75      | 0         | 11.50                   | 11.56      | 11.60      | 12.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 37850/2580              | 38000/2595 | 38150/2610 |               |
| 20MHz     | QPSK       | 1       | 0         | 11.30                   | 11.31      | 11.36      | 12.00         |
|           |            | 1       | 50        | 11.73                   | 11.73      | 11.74      | 12.00         |
|           |            | 1       | 99        | 11.46                   | 11.50      | 11.57      | 12.00         |
|           |            | 50      | 0         | 11.55                   | 11.64      | 11.62      | 12.00         |
|           |            | 50      | 25        | 11.75                   | 11.68      | 11.71      | 12.00         |
|           |            | 50      | 50        | 11.63                   | 11.70      | 11.79      | 12.00         |
|           |            | 100     | 0         | 11.63                   | 11.64      | 11.75      | 12.00         |
|           | 16QAM      | 1       | 0         | 11.30                   | 11.59      | 11.47      | 12.00         |
|           |            | 1       | 50        | 11.43                   | 11.70      | 11.54      | 12.00         |
|           |            | 1       | 99        | 11.54                   | 11.66      | 11.79      | 12.00         |
|           |            | 50      | 0         | 11.59                   | 11.56      | 11.59      | 12.00         |
|           |            | 50      | 25        | 11.47                   | 11.59      | 11.53      | 12.00         |
|           |            | 50      | 50        | 11.65                   | 11.62      | 11.75      | 12.00         |
|           |            | 100     | 0         | 11.52                   | 11.58      | 11.59      | 12.00         |
|           | 64QAM      | 1       | 0         | 11.57                   | 11.47      | 11.66      | 12.00         |
|           |            | 1       | 50        | 11.75                   | 11.76      | 11.81      | 12.00         |
|           |            | 1       | 99        | 11.72                   | 11.67      | 11.94      | 12.00         |
|           |            | 50      | 0         | 11.50                   | 11.57      | 11.56      | 12.00         |
|           |            | 50      | 25        | 11.61                   | 11.61      | 11.65      | 12.00         |
|           |            | 50      | 50        | 11.58                   | 11.63      | 11.72      | 12.00         |
|           |            | 100     | 0         | 11.48                   | 11.52      | 11.57      | 12.00         |

| LTE TDD Band 38<br>(REC Off) |            |         |           | Conducted Power(dBm)    |            |              |               |
|------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                    | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                              |            |         |           | 37775/2572.5            | 38000/2595 | 38225/2617.5 |               |
| 5MHz                         | QPSK       | 1       | 0         | 23.07                   | 23.17      | 23.16        | 24.00         |
|                              |            | 1       | 13        | 23.12                   | 23.21      | 23.26        | 24.00         |
|                              |            | 1       | 24        | 23.25                   | 23.33      | 23.29        | 24.00         |



|           |            | 12      | 0         | 22.18                   | 22.30      | 22.24      | 23.00         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 12      | 6         | 22.19                   | 22.32      | 22.27      | 23.00         |
|           |            | 12      | 13        | 22.19                   | 22.32      | 22.38      | 23.00         |
|           |            | 25      | 0         | 22.08                   | 22.59      | 22.32      | 23.00         |
|           | 16QAM      | 1       | 0         | 22.35                   | 22.28      | 22.39      | 23.00         |
|           |            | 1       | 13        | 22.22                   | 22.31      | 22.39      | 23.00         |
|           |            | 1       | 24        | 22.21                   | 22.33      | 22.22      | 23.00         |
|           |            | 12      | 0         | 21.10                   | 21.08      | 21.19      | 22.00         |
|           |            | 12      | 6         | 21.12                   | 21.17      | 21.24      | 22.00         |
|           |            | 12      | 13        | 21.10                   | 21.31      | 21.22      | 22.00         |
|           |            | 25      | 0         | 21.07                   | 21.27      | 21.25      | 22.00         |
|           | 64QAM      | 1       | 0         | 21.88                   | 21.74      | 21.72      | 22.00         |
|           |            | 1       | 13        | 21.59                   | 21.69      | 21.79      | 22.00         |
|           |            | 1       | 24        | 21.84                   | 21.65      | 21.72      | 22.00         |
|           |            | 12      | 0         | 20.61                   | 20.66      | 20.72      | 21.00         |
|           |            | 12      | 6         | 20.64                   | 20.64      | 20.67      | 21.00         |
|           |            | 12      | 13        | 20.58                   | 20.77      | 20.71      | 21.00         |
|           |            | 25      | 0         | 20.66                   | 20.64      | 20.77      | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 37800/2575              | 38000/2595 | 38200/2615 |               |
| 10MHz     | QPSK       | 1       | 0         | 23.05                   | 23.10      | 23.14      | 24.00         |
|           |            | 1       | 25        | 23.12                   | 23.21      | 23.25      | 24.00         |
|           |            | 1       | 49        | 23.22                   | 23.31      | 23.25      | 24.00         |
|           |            | 25      | 0         | 22.16                   | 22.26      | 22.21      | 23.00         |
|           |            | 25      | 13        | 22.17                   | 22.28      | 22.24      | 23.00         |
|           |            | 25      | 25        | 22.15                   | 22.28      | 22.35      | 23.00         |
|           |            | 50      | 0         | 22.11                   | 22.52      | 22.27      | 23.00         |
|           | 16QAM      | 1       | 0         | 22.30                   | 22.25      | 22.34      | 23.00         |
|           |            | 1       | 25        | 22.19                   | 22.30      | 22.36      | 23.00         |
|           |            | 1       | 49        | 22.19                   | 22.28      | 22.20      | 23.00         |
|           |            | 25      | 0         | 21.07                   | 21.07      | 21.17      | 22.00         |
|           |            | 25      | 13        | 21.08                   | 21.14      | 21.20      | 22.00         |
|           |            | 25      | 25        | 21.08                   | 21.27      | 21.19      | 22.00         |
|           |            | 50      | 0         | 21.05                   | 21.23      | 21.22      | 22.00         |
|           | 64QAM      | 1       | 0         | 21.83                   | 21.71      | 21.67      | 22.00         |
|           |            | 1       | 25        | 21.56                   | 21.68      | 21.76      | 22.00         |
|           |            | 1       | 49        | 21.82                   | 21.60      | 21.70      | 22.00         |
|           |            | 25      | 0         | 20.58                   | 20.65      | 20.70      | 21.00         |
|           |            | 25      | 13        | 20.60                   | 20.61      | 20.63      | 21.00         |
|           |            | 25      | 25        | 20.56                   | 20.73      | 20.68      | 21.00         |
|           |            | 50      | 0         | 20.64                   | 20.60      | 20.74      | 21.00         |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            |         |           | 37825/2577.5            | 38000/2595 | 38175/2612.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 23.04                   | 23.06      | 23.12        | 24.00         |
|           |            | 1       | 38        | 23.10                   | 23.20      | 23.22        | 24.00         |
|           |            | 1       | 74        | 23.19                   | 23.26      | 23.21        | 24.00         |
|           |            | 36      | 0         | 22.14                   | 22.22      | 22.18        | 23.00         |
|           |            | 36      | 18        | 22.14                   | 22.23      | 22.20        | 23.00         |
|           |            | 36      | 39        | 22.12                   | 22.25      | 22.31        | 23.00         |
|           |            | 75      | 0         | 22.09                   | 22.48      | 22.22        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.25                   | 22.23      | 22.32        | 23.00         |
|           |            | 1       | 38        | 22.17                   | 22.27      | 22.34        | 23.00         |
|           |            | 1       | 74        | 22.16                   | 22.24      | 22.17        | 23.00         |
|           |            | 36      | 0         | 21.04                   | 21.05      | 21.14        | 22.00         |
|           |            | 36      | 18        | 21.05                   | 21.09      | 21.16        | 22.00         |
|           |            | 36      | 39        | 21.06                   | 21.23      | 21.16        | 22.00         |
|           |            | 75      | 0         | 21.02                   | 21.18      | 21.18        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.78                   | 21.69      | 21.65        | 22.00         |
|           |            | 1       | 38        | 21.54                   | 21.65      | 21.74        | 22.00         |
|           |            | 1       | 74        | 21.79                   | 21.56      | 21.67        | 22.00         |
|           |            | 36      | 0         | 20.55                   | 20.63      | 20.67        | 21.00         |
|           |            | 36      | 18        | 20.57                   | 20.56      | 20.59        | 21.00         |
|           |            | 36      | 39        | 20.54                   | 20.69      | 20.65        | 21.00         |
|           |            | 75      | 0         | 20.61                   | 20.55      | 20.70        | 21.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 37850/2580              | 38000/2595 | 38150/2610   |               |
| 20MHz     | QPSK       | 1       | 0         | 23.01                   | 23.02      | 23.09        | 24.00         |
|           |            | 1       | 50        | 23.09                   | 23.16      | 23.20        | 24.00         |
|           |            | 1       | 99        | 23.17                   | 23.25      | 23.18        | 24.00         |
|           |            | 50      | 0         | 22.11                   | 22.17      | 22.14        | 23.00         |
|           |            | 50      | 25        | 22.12                   | 22.19      | 22.17        | 23.00         |
|           |            | 50      | 50        | 22.09                   | 22.20      | 22.27        | 23.00         |
|           |            | 100     | 0         | 22.06                   | 22.43      | 22.18        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.23                   | 22.19      | 22.27        | 23.00         |
|           |            | 1       | 50        | 22.13                   | 22.25      | 22.30        | 23.00         |
|           |            | 1       | 99        | 22.14                   | 22.21      | 22.15        | 23.00         |
|           |            | 50      | 0         | 21.01                   | 21.01      | 21.11        | 22.00         |
|           |            | 50      | 25        | 21.02                   | 21.07      | 21.13        | 22.00         |
|           |            | 50      | 50        | 21.03                   | 21.18      | 21.12        | 22.00         |
|           |            | 100     | 0         | 21.00                   | 21.14      | 21.15        | 22.00         |
|           | 64QAM      | 1       | 0         | 21.76                   | 21.65      | 21.60        | 22.00         |
|           |            | 1       | 50        | 21.50                   | 21.63      | 21.70        | 22.00         |
|           |            | 1       | 99        | 21.77                   | 21.53      | 21.65        | 22.00         |
|           |            | 50      | 0         | 20.52                   | 20.59      | 20.64        | 21.00         |



|  |  |     |    |       |       |       |       |
|--|--|-----|----|-------|-------|-------|-------|
|  |  | 50  | 25 | 20.54 | 20.54 | 20.56 | 21.00 |
|  |  | 50  | 50 | 20.51 | 20.64 | 20.61 | 21.00 |
|  |  | 100 | 0  | 20.59 | 20.51 | 20.67 | 21.00 |

| LTE TDD Band 38<br>(REC Off+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |            |              |                  |
|---------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|------------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                       |            |         |           | 37775/2572.5            | 38000/2595 | 38225/2617.5 |                  |
| 5MHz                                  | QPSK       | 1       | 0         | 19.12                   | 19.18      | 19.20        | 20.00            |
|                                       |            | 1       | 13        | 19.12                   | 19.17      | 19.28        | 20.00            |
|                                       |            | 1       | 24        | 19.18                   | 19.26      | 19.32        | 20.00            |
|                                       |            | 12      | 0         | 19.09                   | 19.22      | 19.29        | 20.00            |
|                                       |            | 12      | 6         | 19.15                   | 19.24      | 19.17        | 20.00            |
|                                       |            | 12      | 13        | 19.21                   | 19.23      | 19.23        | 20.00            |
|                                       |            | 25      | 0         | 19.08                   | 19.25      | 19.27        | 20.00            |
|                                       | 16QAM      | 1       | 0         | 19.32                   | 19.20      | 19.36        | 20.00            |
|                                       |            | 1       | 13        | 19.11                   | 19.09      | 19.14        | 20.00            |
|                                       |            | 1       | 24        | 19.13                   | 19.34      | 19.21        | 20.00            |
|                                       |            | 12      | 0         | 19.11                   | 19.11      | 19.09        | 20.00            |
|                                       |            | 12      | 6         | 19.10                   | 19.17      | 19.25        | 20.00            |
|                                       |            | 12      | 13        | 19.07                   | 19.20      | 19.20        | 20.00            |
|                                       |            | 25      | 0         | 19.06                   | 19.17      | 19.13        | 20.00            |
|                                       | 64QAM      | 1       | 0         | 19.08                   | 19.10      | 19.29        | 20.00            |
|                                       |            | 1       | 13        | 18.92                   | 18.92      | 18.99        | 20.00            |
|                                       |            | 1       | 24        | 19.13                   | 19.05      | 19.19        | 20.00            |
|                                       |            | 12      | 0         | 19.10                   | 18.99      | 19.14        | 20.00            |
|                                       |            | 12      | 6         | 19.09                   | 19.08      | 19.11        | 20.00            |
|                                       |            | 12      | 13        | 19.13                   | 19.21      | 19.19        | 20.00            |
|                                       |            | 25      | 0         | 19.03                   | 19.18      | 19.16        | 20.00            |
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                       |            |         |           | 37800/2575              | 38000/2595 | 38200/2615   |                  |
| 10MHz                                 | QPSK       | 1       | 0         | 19.14                   | 19.19      | 19.23        | 20.00            |
|                                       |            | 1       | 25        | 19.15                   | 19.22      | 19.32        | 20.00            |
|                                       |            | 1       | 49        | 19.20                   | 19.30      | 19.35        | 20.00            |
|                                       |            | 25      | 0         | 19.12                   | 19.27      | 19.33        | 20.00            |
|                                       |            | 25      | 13        | 19.18                   | 19.29      | 19.21        | 20.00            |
|                                       |            | 25      | 25        | 19.23                   | 19.27      | 19.28        | 20.00            |
|                                       |            | 50      | 0         | 19.16                   | 19.27      | 19.31        | 20.00            |
|                                       | 16QAM      | 1       | 0         | 19.34                   | 19.23      | 19.38        | 20.00            |
|                                       |            | 1       | 25        | 19.14                   | 19.13      | 19.17        | 20.00            |
|                                       |            | 1       | 49        | 19.16                   | 19.36      | 19.24        | 20.00            |
|                                       |            | 25      | 0         | 19.14                   | 19.16      | 19.13        | 20.00            |
|                                       |            | 25      | 13        | 19.12                   | 19.21      | 19.28        | 20.00            |



|           |            | 25      | 25        | 19.10                   | 19.25      | 19.24        | 20.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 50      | 0         | 19.09                   | 19.22      | 19.17        | 20.00         |
|           | 64QAM      | 1       | 0         | 19.10                   | 19.13      | 19.31        | 20.00         |
|           |            | 1       | 25        | 18.95                   | 18.96      | 19.02        | 20.00         |
|           |            | 1       | 49        | 19.16                   | 19.07      | 19.22        | 20.00         |
|           |            | 25      | 0         | 19.13                   | 19.04      | 19.18        | 20.00         |
|           |            | 25      | 13        | 19.11                   | 19.12      | 19.14        | 20.00         |
|           |            | 25      | 25        | 19.16                   | 19.26      | 19.23        | 20.00         |
|           |            | 50      | 0         | 19.06                   | 19.23      | 19.20        | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 37825/2577.5            | 38000/2595 | 38175/2612.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 19.13                   | 19.15      | 19.21        | 20.00         |
|           |            | 1       | 38        | 19.13                   | 19.21      | 19.29        | 20.00         |
|           |            | 1       | 74        | 19.17                   | 19.25      | 19.31        | 20.00         |
|           |            | 36      | 0         | 19.10                   | 19.23      | 19.30        | 20.00         |
|           |            | 36      | 18        | 19.15                   | 19.24      | 19.17        | 20.00         |
|           |            | 36      | 39        | 19.20                   | 19.24      | 19.24        | 20.00         |
|           |            | 75      | 0         | 19.14                   | 19.23      | 19.26        | 20.00         |
|           | 16QAM      | 1       | 0         | 19.29                   | 19.21      | 19.36        | 20.00         |
|           |            | 1       | 38        | 19.12                   | 19.10      | 19.15        | 20.00         |
|           |            | 1       | 74        | 19.13                   | 19.32      | 19.21        | 20.00         |
|           |            | 36      | 0         | 19.11                   | 19.14      | 19.10        | 20.00         |
|           |            | 36      | 18        | 19.09                   | 19.16      | 19.24        | 20.00         |
|           |            | 36      | 39        | 19.08                   | 19.21      | 19.21        | 20.00         |
|           |            | 75      | 0         | 19.06                   | 19.17      | 19.13        | 20.00         |
|           | 64QAM      | 1       | 0         | 19.05                   | 19.11      | 19.29        | 20.00         |
|           |            | 1       | 38        | 18.93                   | 18.93      | 19.00        | 20.00         |
|           |            | 1       | 74        | 19.13                   | 19.03      | 19.19        | 20.00         |
|           |            | 36      | 0         | 19.10                   | 19.02      | 19.15        | 20.00         |
|           |            | 36      | 18        | 19.08                   | 19.07      | 19.10        | 20.00         |
|           |            | 36      | 39        | 19.14                   | 19.22      | 19.20        | 20.00         |
|           |            | 75      | 0         | 19.03                   | 19.18      | 19.16        | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 37850/2580              | 38000/2595 | 38150/2610   |               |
| 20MHz     | QPSK       | 1       | 0         | 19.10                   | 19.11      | 19.18        | 20.00         |
|           |            | 1       | 50        | 19.12                   | 19.17      | 19.27        | 20.00         |
|           |            | 1       | 99        | 19.15                   | 19.24      | 19.28        | 20.00         |
|           |            | 50      | 0         | 19.07                   | 19.18      | 19.26        | 20.00         |
|           |            | 50      | 25        | 19.13                   | 19.20      | 19.14        | 20.00         |
|           |            | 50      | 50        | 19.17                   | 19.19      | 19.20        | 20.00         |
|           |            | 100     | 0         | 19.11                   | 19.18      | 19.22        | 20.00         |
|           | 16QAM      | 1       | 0         | 19.27                   | 19.17      | 19.31        | 20.00         |
|           |            | 1       | 50        | 19.08                   | 19.08      | 19.11        | 20.00         |



|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  |       | 1   | 99 | 19.11 | 19.29 | 19.19 | 20.00 |
|  |       | 50  | 0  | 19.08 | 19.10 | 19.07 | 20.00 |
|  |       | 50  | 25 | 19.06 | 19.14 | 19.21 | 20.00 |
|  |       | 50  | 50 | 19.05 | 19.16 | 19.17 | 20.00 |
|  |       | 100 | 0  | 19.04 | 19.13 | 19.10 | 20.00 |
|  | 64QAM | 1   | 0  | 19.03 | 19.07 | 19.24 | 20.00 |
|  |       | 1   | 50 | 18.89 | 18.91 | 18.96 | 20.00 |
|  |       | 1   | 99 | 19.11 | 19.00 | 19.17 | 20.00 |
|  |       | 50  | 0  | 19.07 | 18.98 | 19.12 | 20.00 |
|  |       | 50  | 25 | 19.05 | 19.05 | 19.07 | 20.00 |
|  |       | 50  | 50 | 19.11 | 19.17 | 19.16 | 20.00 |
|  |       | 100 | 0  | 19.01 | 19.14 | 19.13 | 20.00 |

| LTE TDD Band 41<br>(REC On+Left Head) |            |         |           | Conducted Power(dBm)    |            |              |                  |
|---------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|------------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                       |            |         |           | 40165/2547.5            | 40690/2600 | 41215/2652.5 |                  |
| 5MHz                                  | QPSK       | 1       | 0         | 22.09                   | 22.19      | 22.30        | 23.00            |
|                                       |            | 1       | 13        | 22.03                   | 22.10      | 22.35        | 23.00            |
|                                       |            | 1       | 24        | 22.17                   | 22.30      | 22.50        | 23.00            |
|                                       |            | 12      | 0         | 22.03                   | 22.18      | 22.41        | 23.00            |
|                                       |            | 12      | 6         | 21.98                   | 22.20      | 22.25        | 23.00            |
|                                       |            | 12      | 13        | 22.26                   | 22.33      | 22.41        | 23.00            |
|                                       |            | 25      | 0         | 22.00                   | 22.18      | 22.40        | 23.00            |
|                                       | 16QAM      | 1       | 0         | 22.10                   | 21.99      | 22.11        | 23.00            |
|                                       |            | 1       | 13        | 21.77                   | 21.79      | 21.97        | 23.00            |
|                                       |            | 1       | 24        | 21.93                   | 22.31      | 22.24        | 23.00            |
|                                       |            | 12      | 0         | 21.75                   | 21.80      | 21.90        | 22.50            |
|                                       |            | 12      | 6         | 21.80                   | 21.89      | 21.88        | 22.50            |
|                                       |            | 12      | 13        | 21.64                   | 21.97      | 21.91        | 22.50            |
|                                       |            | 25      | 0         | 21.68                   | 21.69      | 21.85        | 22.50            |
|                                       | 64QAM      | 1       | 0         | 21.74                   | 21.84      | 22.17        | 22.50            |
|                                       |            | 1       | 13        | 21.70                   | 21.64      | 21.70        | 22.50            |
|                                       |            | 1       | 24        | 21.85                   | 21.80      | 21.93        | 22.50            |
|                                       |            | 12      | 0         | 20.93                   | 20.81      | 21.06        | 21.50            |
|                                       |            | 12      | 6         | 21.05                   | 20.78      | 20.99        | 21.50            |
|                                       |            | 12      | 13        | 21.18                   | 20.89      | 21.13        | 21.50            |
|                                       |            | 25      | 0         | 21.17                   | 20.91      | 21.06        | 21.50            |
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                       |            |         |           | 40190/2550              | 40690/2600 | 41190/2650   |                  |
| 10MHz                                 | QPSK       | 1       | 0         | 22.11                   | 22.20      | 22.33        | 23.00            |
|                                       |            | 1       | 25        | 22.06                   | 22.15      | 22.39        | 23.00            |
|                                       |            | 1       | 49        | 22.19                   | 22.34      | 22.53        | 23.00            |





|           |            | 25      | 0         | 22.06                   | 22.23      | 22.45        | 23.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 25      | 13        | 22.01                   | 22.25      | 22.29        | 23.00         |
|           |            | 25      | 25        | 22.28                   | 22.37      | 22.46        | 23.00         |
|           |            | 50      | 0         | 22.08                   | 22.20      | 22.44        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.12                   | 22.02      | 22.13        | 23.00         |
|           |            | 1       | 25        | 21.80                   | 21.83      | 22.00        | 23.00         |
|           |            | 1       | 49        | 21.96                   | 22.33      | 22.27        | 23.00         |
|           |            | 25      | 0         | 21.78                   | 21.85      | 21.94        | 22.50         |
|           |            | 25      | 13        | 21.82                   | 21.93      | 21.91        | 22.50         |
|           |            | 25      | 25        | 21.67                   | 22.02      | 21.95        | 22.50         |
|           |            | 50      | 0         | 21.71                   | 21.74      | 21.89        | 22.50         |
|           | 64QAM      | 1       | 0         | 21.76                   | 21.87      | 22.19        | 22.50         |
|           |            | 1       | 25        | 21.73                   | 21.68      | 21.73        | 22.50         |
|           |            | 1       | 49        | 21.88                   | 21.82      | 21.96        | 22.50         |
|           |            | 25      | 0         | 20.96                   | 20.86      | 21.10        | 21.50         |
|           |            | 25      | 13        | 21.07                   | 20.82      | 21.02        | 21.50         |
|           |            | 25      | 25        | 21.21                   | 20.94      | 21.17        | 21.50         |
|           |            | 50      | 0         | 21.20                   | 20.96      | 21.10        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 40215/2552.5            | 40690/2600 | 41165/2647.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 22.10                   | 22.16      | 22.31        | 23.00         |
|           |            | 1       | 38        | 22.04                   | 22.14      | 22.36        | 23.00         |
|           |            | 1       | 74        | 22.16                   | 22.29      | 22.49        | 23.00         |
|           |            | 36      | 0         | 22.04                   | 22.19      | 22.42        | 23.00         |
|           |            | 36      | 18        | 21.98                   | 22.20      | 22.25        | 23.00         |
|           |            | 36      | 39        | 22.25                   | 22.34      | 22.42        | 23.00         |
|           |            | 75      | 0         | 22.06                   | 22.16      | 22.39        | 23.00         |
|           | 16QAM      | 1       | 0         | 22.07                   | 22.00      | 22.11        | 23.00         |
|           |            | 1       | 38        | 21.78                   | 21.80      | 21.98        | 23.00         |
|           |            | 1       | 74        | 21.93                   | 22.29      | 22.24        | 23.00         |
|           |            | 36      | 0         | 21.75                   | 21.83      | 21.91        | 22.50         |
|           |            | 36      | 18        | 21.79                   | 21.88      | 21.87        | 22.50         |
|           |            | 36      | 39        | 21.65                   | 21.98      | 21.92        | 22.50         |
|           |            | 75      | 0         | 21.68                   | 21.69      | 21.85        | 22.50         |
|           | 64QAM      | 1       | 0         | 21.71                   | 21.85      | 22.17        | 22.50         |
|           |            | 1       | 38        | 21.71                   | 21.65      | 21.71        | 22.50         |
|           |            | 1       | 74        | 21.85                   | 21.78      | 21.93        | 22.50         |
|           |            | 36      | 0         | 20.93                   | 20.84      | 21.07        | 21.50         |
|           |            | 36      | 18        | 21.04                   | 20.77      | 20.98        | 21.50         |
|           |            | 36      | 39        | 21.19                   | 20.90      | 21.14        | 21.50         |
|           |            | 75      | 0         | 21.17                   | 20.91      | 21.06        | 21.50         |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            |         |           | 40240/2555              | 40690/2600 | 41140/2645 |               |
| 20MHz     | QPSK       | 1       | 0         | 22.07                   | 22.12      | 22.28      | 23.00         |
|           |            | 1       | 50        | 22.03                   | 22.10      | 22.34      | 23.00         |
|           |            | 1       | 99        | 22.14                   | 22.28      | 22.46      | 23.00         |
|           |            | 50      | 0         | 22.01                   | 22.14      | 22.38      | 23.00         |
|           |            | 50      | 25        | 21.96                   | 22.16      | 22.22      | 23.00         |
|           |            | 50      | 50        | 22.22                   | 22.29      | 22.38      | 23.00         |
|           |            | 100     | 0         | 22.03                   | 22.11      | 22.35      | 23.00         |
|           | 16QAM      | 1       | 0         | 22.05                   | 21.96      | 22.06      | 23.00         |
|           |            | 1       | 50        | 21.74                   | 21.78      | 21.94      | 23.00         |
|           |            | 1       | 99        | 21.91                   | 22.26      | 22.22      | 23.00         |
|           |            | 50      | 0         | 21.72                   | 21.79      | 21.88      | 22.50         |
|           |            | 50      | 25        | 21.76                   | 21.86      | 21.84      | 22.50         |
|           |            | 50      | 50        | 21.62                   | 21.93      | 21.88      | 22.50         |
|           |            | 100     | 0         | 21.66                   | 21.65      | 21.82      | 22.50         |
|           | 64QAM      | 1       | 0         | 21.69                   | 21.81      | 22.12      | 22.50         |
|           |            | 1       | 50        | 21.67                   | 21.63      | 21.67      | 22.50         |
|           |            | 1       | 99        | 21.83                   | 21.75      | 21.91      | 22.50         |
|           |            | 50      | 0         | 20.90                   | 20.80      | 21.04      | 21.50         |
|           |            | 50      | 25        | 21.01                   | 20.75      | 20.95      | 21.50         |
|           |            | 50      | 50        | 21.16                   | 20.85      | 21.10      | 21.50         |
|           |            | 100     | 0         | 21.15                   | 20.87      | 21.03      | 21.50         |

| LTE TDD Band 41<br>(REC On+Right Head) |            |         |           | Conducted Power(dBm)    |            |              |               |
|----------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                              | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                        |            |         |           | 40165/2547.5            | 40690/2600 | 41215/2652.5 |               |
| 5MHz                                   | QPSK       | 1       | 0         | 15.99                   | 16.04      | 16.28        | 17.00         |
|                                        |            | 1       | 13        | 15.96                   | 16.05      | 15.61        | 17.00         |
|                                        |            | 1       | 24        | 16.11                   | 16.18      | 16.45        | 17.00         |
|                                        |            | 12      | 0         | 15.91                   | 16.12      | 16.37        | 17.00         |
|                                        |            | 12      | 6         | 15.95                   | 15.86      | 16.25        | 17.00         |
|                                        |            | 12      | 13        | 15.94                   | 15.93      | 16.21        | 17.00         |
|                                        |            | 25      | 0         | 15.99                   | 15.94      | 16.42        | 17.00         |
|                                        | 16QAM      | 1       | 0         | 16.22                   | 16.00      | 16.18        | 17.00         |
|                                        |            | 1       | 13        | 15.10                   | 16.18      | 16.21        | 17.00         |
|                                        |            | 1       | 24        | 16.10                   | 16.27      | 16.23        | 17.00         |
|                                        |            | 12      | 0         | 15.80                   | 15.98      | 16.30        | 17.00         |
|                                        |            | 12      | 6         | 16.00                   | 15.95      | 16.19        | 17.00         |
|                                        |            | 12      | 13        | 16.01                   | 15.93      | 16.32        | 17.00         |
|                                        |            | 25      | 0         | 15.95                   | 15.92      | 16.29        | 17.00         |
|                                        | 64QAM      | 1       | 0         | 14.94                   | 15.88      | 16.18        | 17.00         |



|           |            | 1       | 13        | 15.20                   | 15.78      | 15.19        | 17.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 1       | 24        | 16.02                   | 15.77      | 16.24        | 17.00         |
|           |            | 12      | 0         | 15.81                   | 15.99      | 16.27        | 17.00         |
|           |            | 12      | 6         | 15.99                   | 15.83      | 16.25        | 17.00         |
|           |            | 12      | 13        | 16.03                   | 16.21      | 16.36        | 17.00         |
|           |            | 25      | 0         | 15.94                   | 15.92      | 16.30        | 17.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 40190/2550              | 40690/2600 | 41190/2650   |               |
| 10MHz     | QPSK       | 1       | 0         | 16.01                   | 16.05      | 16.31        | 17.00         |
|           |            | 1       | 25        | 15.99                   | 16.10      | 15.65        | 17.00         |
|           |            | 1       | 49        | 16.13                   | 16.22      | 16.48        | 17.00         |
|           |            | 25      | 0         | 15.94                   | 16.17      | 16.41        | 17.00         |
|           |            | 25      | 13        | 15.98                   | 15.91      | 16.29        | 17.00         |
|           |            | 25      | 25        | 15.96                   | 15.97      | 16.26        | 17.00         |
|           |            | 50      | 0         | 16.07                   | 15.96      | 16.46        | 17.00         |
|           | 16QAM      | 1       | 0         | 16.24                   | 16.03      | 16.20        | 17.00         |
|           |            | 1       | 25        | 15.13                   | 16.22      | 16.24        | 17.00         |
|           |            | 1       | 49        | 16.13                   | 16.29      | 16.26        | 17.00         |
|           |            | 25      | 0         | 15.83                   | 16.03      | 16.34        | 17.00         |
|           |            | 25      | 13        | 16.02                   | 15.99      | 16.22        | 17.00         |
|           |            | 25      | 25        | 16.04                   | 15.98      | 16.36        | 17.00         |
|           |            | 50      | 0         | 15.98                   | 15.97      | 16.33        | 17.00         |
|           | 64QAM      | 1       | 0         | 14.96                   | 15.91      | 16.20        | 17.00         |
|           |            | 1       | 25        | 15.23                   | 15.82      | 15.22        | 17.00         |
|           |            | 1       | 49        | 16.05                   | 15.79      | 16.27        | 17.00         |
|           |            | 25      | 0         | 15.84                   | 16.04      | 16.31        | 17.00         |
|           |            | 25      | 13        | 16.01                   | 15.87      | 16.28        | 17.00         |
|           |            | 25      | 25        | 16.06                   | 16.26      | 16.40        | 17.00         |
|           |            | 50      | 0         | 15.97                   | 15.97      | 16.34        | 17.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 40215/2552.5            | 40690/2600 | 41165/2647.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 16.00                   | 16.01      | 16.29        | 17.00         |
|           |            | 1       | 38        | 15.97                   | 16.09      | 15.62        | 17.00         |
|           |            | 1       | 74        | 16.10                   | 16.17      | 16.44        | 17.00         |
|           |            | 36      | 0         | 15.92                   | 16.13      | 16.38        | 17.00         |
|           |            | 36      | 18        | 15.95                   | 15.86      | 16.25        | 17.00         |
|           |            | 36      | 39        | 15.93                   | 15.94      | 16.22        | 17.00         |
|           |            | 75      | 0         | 16.05                   | 15.92      | 16.41        | 17.00         |
|           | 16QAM      | 1       | 0         | 16.19                   | 16.01      | 16.18        | 17.00         |
|           |            | 1       | 38        | 15.11                   | 16.19      | 16.22        | 17.00         |
|           |            | 1       | 74        | 16.10                   | 16.25      | 16.23        | 17.00         |
|           |            | 36      | 0         | 15.80                   | 16.01      | 16.31        | 17.00         |
|           |            | 36      | 18        | 15.99                   | 15.94      | 16.18        | 17.00         |



|           |            | 36      | 39        | 16.02                   | 15.94      | 16.33      | 17.00         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 75      | 0         | 15.95                   | 15.92      | 16.29      | 17.00         |
|           | 64QAM      | 1       | 0         | 14.91                   | 15.89      | 16.18      | 17.00         |
|           |            | 1       | 38        | 15.21                   | 15.79      | 15.20      | 17.00         |
|           |            | 1       | 74        | 16.02                   | 15.75      | 16.24      | 17.00         |
|           |            | 36      | 0         | 15.81                   | 16.02      | 16.28      | 17.00         |
|           |            | 36      | 18        | 15.98                   | 15.82      | 16.24      | 17.00         |
|           |            | 36      | 39        | 16.04                   | 16.22      | 16.37      | 17.00         |
|           |            | 75      | 0         | 15.94                   | 15.92      | 16.30      | 17.00         |
|           |            |         |           |                         |            |            |               |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 40240/2555              | 40690/2600 | 41140/2645 |               |
| 20MHz     | QPSK       | 1       | 0         | 15.97                   | 15.97      | 16.26      | 17.00         |
|           |            | 1       | 50        | 15.96                   | 16.05      | 15.60      | 17.00         |
|           |            | 1       | 99        | 16.08                   | 16.16      | 16.41      | 17.00         |
|           |            | 50      | 0         | 15.89                   | 16.08      | 16.34      | 17.00         |
|           |            | 50      | 25        | 15.93                   | 15.82      | 16.22      | 17.00         |
|           |            | 50      | 50        | 15.90                   | 15.89      | 16.18      | 17.00         |
|           |            | 100     | 0         | 16.02                   | 15.87      | 16.37      | 17.00         |
|           |            |         |           |                         |            |            |               |
|           | 16QAM      | 1       | 0         | 16.17                   | 15.97      | 16.13      | 17.00         |
|           |            | 1       | 50        | 15.07                   | 16.17      | 16.18      | 17.00         |
|           |            | 1       | 99        | 16.08                   | 16.22      | 16.21      | 17.00         |
|           |            | 50      | 0         | 15.77                   | 15.97      | 16.28      | 17.00         |
|           |            | 50      | 25        | 15.96                   | 15.92      | 16.15      | 17.00         |
|           |            | 50      | 50        | 15.99                   | 15.89      | 16.29      | 17.00         |
|           |            | 100     | 0         | 15.93                   | 15.88      | 16.26      | 17.00         |
|           |            |         |           |                         |            |            |               |
|           | 64QAM      | 1       | 0         | 14.89                   | 15.85      | 16.13      | 17.00         |
|           |            | 1       | 50        | 15.17                   | 15.77      | 15.16      | 17.00         |
|           |            | 1       | 99        | 16.00                   | 15.72      | 16.22      | 17.00         |
|           |            | 50      | 0         | 15.78                   | 15.98      | 16.25      | 17.00         |
|           |            | 50      | 25        | 15.95                   | 15.80      | 16.21      | 17.00         |
|           |            | 50      | 50        | 16.01                   | 16.17      | 16.33      | 17.00         |
|           |            | 100     | 0         | 15.92                   | 15.88      | 16.27      | 17.00         |
|           |            |         |           |                         |            |            |               |

| LTE TDD Band 41<br>(REC On+Left Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |            |              |               |
|------------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
| Bandwidth                                      | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|                                                |            |         |           | 40165/2547.5            | 40690/2600 | 41215/2652.5 |               |
| 5MHz                                           | QPSK       | 1       | 0         | 19.19                   | 19.29      | 19.40        | 20.00         |
|                                                |            | 1       | 13        | 19.09                   | 19.16      | 19.41        | 20.00         |
|                                                |            | 1       | 24        | 19.09                   | 19.22      | 19.42        | 20.00         |
|                                                |            | 12      | 0         | 18.97                   | 19.12      | 19.35        | 20.00         |
|                                                |            | 12      | 6         | 18.93                   | 19.15      | 19.20        | 20.00         |
|                                                |            | 12      | 13        | 18.85                   | 19.12      | 19.20        | 20.00         |



|           | 16QAM      | 25      | 0         | 18.98                   | 19.16      | 19.38        | 20.00         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 1       | 0         | 19.20                   | 19.09      | 19.21        | 20.00         |
|           |            | 1       | 13        | 19.07                   | 19.09      | 19.27        | 20.00         |
|           |            | 1       | 24        | 18.88                   | 19.26      | 19.19        | 20.00         |
|           |            | 12      | 0         | 18.96                   | 19.01      | 19.11        | 20.00         |
|           |            | 12      | 6         | 18.98                   | 19.07      | 19.06        | 20.00         |
|           |            | 12      | 13        | 18.80                   | 19.13      | 19.07        | 20.00         |
|           |            | 25      | 0         | 19.05                   | 19.06      | 19.22        | 20.00         |
|           | 64QAM      | 1       | 0         | 18.92                   | 19.02      | 19.35        | 20.00         |
|           |            | 1       | 13        | 19.12                   | 19.06      | 19.12        | 20.00         |
|           |            | 1       | 24        | 19.21                   | 19.16      | 19.29        | 20.00         |
|           |            | 12      | 0         | 19.20                   | 19.08      | 19.33        | 20.00         |
|           |            | 12      | 6         | 19.42                   | 19.15      | 19.36        | 20.00         |
|           |            | 12      | 13        | 19.38                   | 19.09      | 19.33        | 20.00         |
|           |            | 25      | 0         | 19.42                   | 19.16      | 19.31        | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 40190/2550              | 40690/2600 | 41190/2650   |               |
| 10MHz     | QPSK       | 1       | 0         | 19.21                   | 19.30      | 19.43        | 20.00         |
|           |            | 1       | 25        | 19.12                   | 19.21      | 19.45        | 20.00         |
|           |            | 1       | 49        | 19.11                   | 19.26      | 19.45        | 20.00         |
|           |            | 25      | 0         | 19.00                   | 19.17      | 19.39        | 20.00         |
|           |            | 25      | 13        | 18.96                   | 19.20      | 19.24        | 20.00         |
|           |            | 25      | 25        | 18.87                   | 19.16      | 19.25        | 20.00         |
|           |            | 50      | 0         | 19.06                   | 19.18      | 19.42        | 20.00         |
|           | 16QAM      | 1       | 0         | 19.22                   | 19.12      | 19.23        | 20.00         |
|           |            | 1       | 25        | 19.10                   | 19.13      | 19.30        | 20.00         |
|           |            | 1       | 49        | 18.91                   | 19.28      | 19.22        | 20.00         |
|           |            | 25      | 0         | 18.99                   | 19.06      | 19.15        | 20.00         |
|           |            | 25      | 13        | 19.00                   | 19.11      | 19.09        | 20.00         |
|           |            | 25      | 25        | 18.83                   | 19.18      | 19.11        | 20.00         |
|           |            | 50      | 0         | 19.08                   | 19.11      | 19.26        | 20.00         |
|           | 64QAM      | 1       | 0         | 18.94                   | 19.05      | 19.37        | 20.00         |
|           |            | 1       | 25        | 19.15                   | 19.10      | 19.15        | 20.00         |
|           |            | 1       | 49        | 19.24                   | 19.18      | 19.32        | 20.00         |
|           |            | 25      | 0         | 19.23                   | 19.13      | 19.37        | 20.00         |
|           |            | 25      | 13        | 19.44                   | 19.19      | 19.39        | 20.00         |
|           |            | 25      | 25        | 19.41                   | 19.14      | 19.37        | 20.00         |
|           |            | 50      | 0         | 19.45                   | 19.21      | 19.35        | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 40215/2552.5            | 40690/2600 | 41165/2647.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 19.20                   | 19.26      | 19.41        | 20.00         |
|           |            | 1       | 38        | 19.10                   | 19.20      | 19.42        | 20.00         |
|           |            | 1       | 74        | 19.08                   | 19.21      | 19.41        | 20.00         |



|           |            | 36      | 0         | 18.98                   | 19.13      | 19.36      | 20.00         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 36      | 18        | 18.93                   | 19.15      | 19.20      | 20.00         |
|           |            | 36      | 39        | 18.84                   | 19.13      | 19.21      | 20.00         |
|           |            | 75      | 0         | 19.04                   | 19.14      | 19.37      | 20.00         |
|           | 16QAM      | 1       | 0         | 19.17                   | 19.10      | 19.21      | 20.00         |
|           |            | 1       | 38        | 19.08                   | 19.10      | 19.28      | 20.00         |
|           |            | 1       | 74        | 18.88                   | 19.24      | 19.19      | 20.00         |
|           |            | 36      | 0         | 18.96                   | 19.04      | 19.12      | 20.00         |
|           |            | 36      | 18        | 18.97                   | 19.06      | 19.05      | 20.00         |
|           |            | 36      | 39        | 18.81                   | 19.14      | 19.08      | 20.00         |
|           |            | 75      | 0         | 19.05                   | 19.06      | 19.22      | 20.00         |
|           | 64QAM      | 1       | 0         | 18.89                   | 19.03      | 19.35      | 20.00         |
|           |            | 1       | 38        | 19.13                   | 19.07      | 19.13      | 20.00         |
|           |            | 1       | 74        | 19.21                   | 19.14      | 19.29      | 20.00         |
|           |            | 36      | 0         | 19.20                   | 19.11      | 19.34      | 20.00         |
|           |            | 36      | 18        | 19.41                   | 19.14      | 19.35      | 20.00         |
|           |            | 36      | 39        | 19.39                   | 19.10      | 19.34      | 20.00         |
|           |            | 75      | 0         | 19.42                   | 19.16      | 19.31      | 20.00         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 40240/2555              | 40690/2600 | 41140/2645 |               |
| 20MHz     | QPSK       | 1       | 0         | 19.17                   | 19.22      | 19.38      | 20.00         |
|           |            | 1       | 50        | 19.09                   | 19.16      | 19.40      | 20.00         |
|           |            | 1       | 99        | 19.06                   | 19.20      | 19.38      | 20.00         |
|           |            | 50      | 0         | 18.95                   | 19.08      | 19.32      | 20.00         |
|           |            | 50      | 25        | 18.91                   | 19.11      | 19.17      | 20.00         |
|           |            | 50      | 50        | 18.81                   | 19.08      | 19.17      | 20.00         |
|           |            | 100     | 0         | 19.01                   | 19.09      | 19.33      | 20.00         |
|           | 16QAM      | 1       | 0         | 19.15                   | 19.06      | 19.16      | 20.00         |
|           |            | 1       | 50        | 19.04                   | 19.08      | 19.24      | 20.00         |
|           |            | 1       | 99        | 18.86                   | 19.21      | 19.17      | 20.00         |
|           |            | 50      | 0         | 18.93                   | 19.00      | 19.09      | 20.00         |
|           |            | 50      | 25        | 18.94                   | 19.04      | 19.02      | 20.00         |
|           |            | 50      | 50        | 18.78                   | 19.09      | 19.04      | 20.00         |
|           |            | 100     | 0         | 19.03                   | 19.02      | 19.19      | 20.00         |
|           | 64QAM      | 1       | 0         | 18.87                   | 18.99      | 19.30      | 20.00         |
|           |            | 1       | 50        | 19.09                   | 19.05      | 19.09      | 20.00         |
|           |            | 1       | 99        | 19.19                   | 19.11      | 19.27      | 20.00         |
|           |            | 50      | 0         | 19.17                   | 19.07      | 19.31      | 20.00         |
|           |            | 50      | 25        | 19.38                   | 19.12      | 19.32      | 20.00         |
|           |            | 50      | 50        | 19.36                   | 19.05      | 19.30      | 20.00         |
|           |            | 100     | 0         | 19.40                   | 19.12      | 19.28      | 20.00         |



| LTE TDD Band 41<br>(REC On+Right Head+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |            |              |                  |
|-------------------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|------------------|
| Bandwidth                                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                                 |            |         |           | 40165/2547.5            | 40690/2600 | 41215/2652.5 |                  |
| 5MHz                                            | QPSK       | 1       | 0         | 13.74                   | 13.84      | 13.95        | 14.50            |
|                                                 |            | 1       | 13        | 13.68                   | 13.75      | 14.00        | 14.50            |
|                                                 |            | 1       | 24        | 13.42                   | 13.55      | 13.75        | 14.50            |
|                                                 |            | 12      | 0         | 13.41                   | 13.56      | 13.79        | 14.50            |
|                                                 |            | 12      | 6         | 13.52                   | 13.74      | 13.79        | 14.50            |
|                                                 |            | 12      | 13        | 13.26                   | 13.53      | 13.61        | 14.50            |
|                                                 |            | 25      | 0         | 13.35                   | 13.53      | 13.75        | 14.50            |
|                                                 | 16QAM      | 1       | 0         | 13.88                   | 13.77      | 13.89        | 14.50            |
|                                                 |            | 1       | 13        | 13.75                   | 13.77      | 13.95        | 14.50            |
|                                                 |            | 1       | 24        | 13.18                   | 13.56      | 13.49        | 14.50            |
|                                                 |            | 12      | 0         | 13.44                   | 13.49      | 13.59        | 14.50            |
|                                                 |            | 12      | 6         | 13.56                   | 13.65      | 13.64        | 14.50            |
|                                                 |            | 12      | 13        | 13.00                   | 13.33      | 13.27        | 14.50            |
|                                                 |            | 25      | 0         | 13.42                   | 13.43      | 13.59        | 14.50            |
|                                                 | 64QAM      | 1       | 0         | 13.66                   | 13.76      | 13.89        | 14.50            |
|                                                 |            | 1       | 13        | 13.86                   | 13.80      | 13.86        | 14.50            |
|                                                 |            | 1       | 24        | 13.61                   | 13.56      | 13.69        | 14.50            |
|                                                 |            | 12      | 0         | 13.66                   | 13.54      | 13.79        | 14.50            |
|                                                 |            | 12      | 6         | 13.95                   | 13.68      | 13.89        | 14.50            |
|                                                 |            | 12      | 13        | 13.72                   | 13.43      | 13.67        | 14.50            |
|                                                 |            | 25      | 0         | 13.98                   | 13.42      | 13.57        | 14.50            |
| Bandwidth                                       | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                                 |            |         |           | 40190/2550              | 40690/2600 | 41190/2650   |                  |
| 10MHz                                           | QPSK       | 1       | 0         | 13.76                   | 13.85      | 13.98        | 14.50            |
|                                                 |            | 1       | 25        | 13.71                   | 13.80      | 14.04        | 14.50            |
|                                                 |            | 1       | 49        | 13.44                   | 13.59      | 13.78        | 14.50            |
|                                                 |            | 25      | 0         | 13.44                   | 13.61      | 13.83        | 14.50            |
|                                                 |            | 25      | 13        | 13.55                   | 13.79      | 13.83        | 14.50            |
|                                                 |            | 25      | 25        | 13.28                   | 13.57      | 13.66        | 14.50            |
|                                                 |            | 50      | 0         | 13.43                   | 13.55      | 13.79        | 14.50            |
|                                                 | 16QAM      | 1       | 0         | 13.90                   | 13.80      | 13.91        | 14.50            |
|                                                 |            | 1       | 25        | 13.78                   | 13.81      | 13.98        | 14.50            |
|                                                 |            | 1       | 49        | 13.21                   | 13.58      | 13.52        | 14.50            |
|                                                 |            | 25      | 0         | 13.47                   | 13.54      | 13.63        | 14.50            |
|                                                 |            | 25      | 13        | 13.58                   | 13.69      | 13.67        | 14.50            |
|                                                 |            | 25      | 25        | 13.03                   | 13.38      | 13.31        | 14.50            |
|                                                 |            | 50      | 0         | 13.45                   | 13.48      | 13.63        | 14.50            |
|                                                 | 64QAM      | 1       | 0         | 13.68                   | 13.79      | 13.91        | 14.50            |
|                                                 |            | 1       | 25        | 13.89                   | 13.84      | 13.89        | 14.50            |



|           |            | 1       | 49        | 13.64                   | 13.58      | 13.72        | 14.50         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 25      | 0         | 13.69                   | 13.59      | 13.83        | 14.50         |
|           |            | 25      | 13        | 13.97                   | 13.72      | 13.92        | 14.50         |
|           |            | 25      | 25        | 13.75                   | 13.48      | 13.71        | 14.50         |
|           |            | 50      | 0         | 14.01                   | 13.47      | 13.61        | 14.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 40215/2552.5            | 40690/2600 | 41165/2647.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 13.75                   | 13.81      | 13.96        | 14.50         |
|           |            | 1       | 38        | 13.69                   | 13.79      | 14.01        | 14.50         |
|           |            | 1       | 74        | 13.41                   | 13.54      | 13.74        | 14.50         |
|           |            | 36      | 0         | 13.42                   | 13.57      | 13.80        | 14.50         |
|           |            | 36      | 18        | 13.52                   | 13.74      | 13.79        | 14.50         |
|           |            | 36      | 39        | 13.25                   | 13.54      | 13.62        | 14.50         |
|           |            | 75      | 0         | 13.41                   | 13.51      | 13.74        | 14.50         |
|           | 16QAM      | 1       | 0         | 13.85                   | 13.78      | 13.89        | 14.50         |
|           |            | 1       | 38        | 13.76                   | 13.78      | 13.96        | 14.50         |
|           |            | 1       | 74        | 13.18                   | 13.54      | 13.49        | 14.50         |
|           |            | 36      | 0         | 13.44                   | 13.52      | 13.60        | 14.50         |
|           |            | 36      | 18        | 13.55                   | 13.64      | 13.63        | 14.50         |
|           |            | 36      | 39        | 13.01                   | 13.34      | 13.28        | 14.50         |
|           |            | 75      | 0         | 13.42                   | 13.43      | 13.59        | 14.50         |
|           | 64QAM      | 1       | 0         | 13.63                   | 13.77      | 13.89        | 14.50         |
|           |            | 1       | 38        | 13.87                   | 13.81      | 13.87        | 14.50         |
|           |            | 1       | 74        | 13.61                   | 13.54      | 13.69        | 14.50         |
|           |            | 36      | 0         | 13.66                   | 13.57      | 13.80        | 14.50         |
|           |            | 36      | 18        | 13.94                   | 13.67      | 13.88        | 14.50         |
|           |            | 36      | 39        | 13.73                   | 13.44      | 13.68        | 14.50         |
|           |            | 75      | 0         | 13.98                   | 13.42      | 13.57        | 14.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 40240/2555              | 40690/2600 | 41140/2645   |               |
| 20MHz     | QPSK       | 1       | 0         | 13.72                   | 13.77      | 13.93        | 14.50         |
|           |            | 1       | 50        | 13.68                   | 13.75      | 13.99        | 14.50         |
|           |            | 1       | 99        | 13.39                   | 13.53      | 13.71        | 14.50         |
|           |            | 50      | 0         | 13.39                   | 13.52      | 13.76        | 14.50         |
|           |            | 50      | 25        | 13.50                   | 13.70      | 13.76        | 14.50         |
|           |            | 50      | 50        | 13.22                   | 13.49      | 13.58        | 14.50         |
|           |            | 100     | 0         | 13.38                   | 13.46      | 13.70        | 14.50         |
|           | 16QAM      | 1       | 0         | 13.83                   | 13.74      | 13.84        | 14.50         |
|           |            | 1       | 50        | 13.72                   | 13.76      | 13.92        | 14.50         |
|           |            | 1       | 99        | 13.16                   | 13.51      | 13.47        | 14.50         |
|           |            | 50      | 0         | 13.41                   | 13.48      | 13.57        | 14.50         |
|           |            | 50      | 25        | 13.52                   | 13.62      | 13.60        | 14.50         |
|           |            | 50      | 50        | 12.98                   | 13.29      | 13.24        | 14.50         |





|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  | 64QAM | 100 | 0  | 13.40 | 13.39 | 13.56 | 14.50 |
|  |       | 1   | 0  | 13.61 | 13.73 | 13.84 | 14.50 |
|  |       | 1   | 50 | 13.83 | 13.79 | 13.83 | 14.50 |
|  |       | 1   | 99 | 13.59 | 13.51 | 13.67 | 14.50 |
|  |       | 50  | 0  | 13.63 | 13.53 | 13.77 | 14.50 |
|  |       | 50  | 25 | 13.91 | 13.65 | 13.85 | 14.50 |
|  |       | 50  | 50 | 13.70 | 13.39 | 13.64 | 14.50 |
|  |       | 100 | 0  | 13.96 | 13.38 | 13.54 | 14.50 |

| LTE TDD Band 41<br>(REC Off) |            |         |           | Conducted Power(dBm)    |            |              |                  |
|------------------------------|------------|---------|-----------|-------------------------|------------|--------------|------------------|
| Bandwidth                    | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                              |            |         |           | 40165/2547.5            | 40690/2600 | 41215/2652.5 |                  |
| 5MHz                         | QPSK       | 1       | 0         | 23.66                   | 23.64      | 23.80        | 24.50            |
|                              |            | 1       | 13        | 23.43                   | 23.51      | 23.64        | 24.50            |
|                              |            | 1       | 24        | 23.41                   | 23.58      | 23.95        | 24.50            |
|                              |            | 12      | 0         | 22.66                   | 22.86      | 22.92        | 23.50            |
|                              |            | 12      | 6         | 22.63                   | 22.82      | 22.90        | 23.50            |
|                              |            | 12      | 13        | 22.79                   | 22.81      | 22.95        | 23.50            |
|                              |            | 25      | 0         | 22.79                   | 22.82      | 22.93        | 23.50            |
|                              | 16QAM      | 1       | 0         | 22.72                   | 22.79      | 22.64        | 23.50            |
|                              |            | 1       | 13        | 22.87                   | 22.89      | 22.78        | 23.50            |
|                              |            | 1       | 24        | 22.78                   | 22.58      | 22.70        | 23.50            |
|                              |            | 12      | 0         | 21.52                   | 21.65      | 21.75        | 22.50            |
|                              |            | 12      | 6         | 21.52                   | 21.87      | 21.79        | 22.50            |
|                              |            | 12      | 13        | 21.53                   | 21.86      | 21.83        | 22.50            |
|                              |            | 25      | 0         | 21.55                   | 21.79      | 21.85        | 22.50            |
|                              | 64QAM      | 1       | 0         | 21.84                   | 21.95      | 22.11        | 22.50            |
|                              |            | 1       | 13        | 21.60                   | 21.97      | 21.91        | 22.50            |
|                              |            | 1       | 24        | 21.77                   | 22.19      | 22.07        | 22.50            |
|                              |            | 12      | 0         | 21.01                   | 21.12      | 21.09        | 21.50            |
|                              |            | 12      | 6         | 20.82                   | 21.21      | 21.15        | 21.50            |
|                              |            | 12      | 13        | 20.79                   | 21.18      | 21.08        | 21.50            |
|                              |            | 25      | 0         | 20.97                   | 21.01      | 21.11        | 21.50            |
| Bandwidth                    | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                              |            |         |           | 40190/2550              | 40690/2600 | 41190/2650   |                  |
| 10MHz                        | QPSK       | 1       | 0         | 23.68                   | 23.65      | 23.83        | 24.50            |
|                              |            | 1       | 25        | 23.46                   | 23.56      | 23.68        | 24.50            |
|                              |            | 1       | 49        | 23.43                   | 23.62      | 23.98        | 24.50            |
|                              |            | 25      | 0         | 22.69                   | 22.91      | 22.96        | 23.50            |
|                              |            | 25      | 13        | 22.66                   | 22.87      | 22.94        | 23.50            |
|                              |            | 25      | 25        | 22.81                   | 22.85      | 23.00        | 23.50            |
|                              |            | 50      | 0         | 22.87                   | 22.84      | 22.97        | 23.50            |



|           | 16QAM      | 1       | 0         | 22.74                   | 22.82      | 22.66        | 23.50         |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            | 1       | 25        | 22.90                   | 22.93      | 22.81        | 23.50         |
|           |            | 1       | 49        | 22.81                   | 22.60      | 22.73        | 23.50         |
|           |            | 25      | 0         | 21.55                   | 21.70      | 21.79        | 22.50         |
|           |            | 25      | 13        | 21.54                   | 21.91      | 21.82        | 22.50         |
|           |            | 25      | 25        | 21.56                   | 21.91      | 21.87        | 22.50         |
|           |            | 50      | 0         | 21.58                   | 21.84      | 21.89        | 22.50         |
|           | 64QAM      | 1       | 0         | 21.86                   | 21.98      | 22.13        | 22.50         |
|           |            | 1       | 25        | 21.63                   | 22.01      | 21.94        | 22.50         |
|           |            | 1       | 49        | 21.80                   | 22.21      | 22.10        | 22.50         |
|           |            | 25      | 0         | 21.04                   | 21.17      | 21.13        | 21.50         |
|           |            | 25      | 13        | 20.84                   | 21.25      | 21.18        | 21.50         |
|           |            | 25      | 25        | 20.82                   | 21.23      | 21.12        | 21.50         |
|           |            | 50      | 0         | 21.00                   | 21.06      | 21.15        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 40215/2552.5            | 40690/2600 | 41165/2647.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 23.67                   | 23.61      | 23.81        | 24.50         |
|           |            | 1       | 38        | 23.44                   | 23.55      | 23.65        | 24.50         |
|           |            | 1       | 74        | 23.40                   | 23.57      | 23.94        | 24.50         |
|           |            | 36      | 0         | 22.67                   | 22.87      | 22.93        | 23.50         |
|           |            | 36      | 18        | 22.63                   | 22.82      | 22.90        | 23.50         |
|           |            | 36      | 39        | 22.78                   | 22.82      | 22.96        | 23.50         |
|           |            | 75      | 0         | 22.85                   | 22.80      | 22.92        | 23.50         |
|           | 16QAM      | 1       | 0         | 22.69                   | 22.80      | 22.64        | 23.50         |
|           |            | 1       | 38        | 22.88                   | 22.90      | 22.79        | 23.50         |
|           |            | 1       | 74        | 22.78                   | 22.56      | 22.70        | 23.50         |
|           |            | 36      | 0         | 21.52                   | 21.68      | 21.76        | 22.50         |
|           |            | 36      | 18        | 21.51                   | 21.86      | 21.78        | 22.50         |
|           |            | 36      | 39        | 21.54                   | 21.87      | 21.84        | 22.50         |
|           |            | 75      | 0         | 21.55                   | 21.79      | 21.85        | 22.50         |
|           | 64QAM      | 1       | 0         | 21.81                   | 21.96      | 22.11        | 22.50         |
|           |            | 1       | 38        | 21.61                   | 21.98      | 21.92        | 22.50         |
|           |            | 1       | 74        | 21.77                   | 22.17      | 22.07        | 22.50         |
|           |            | 36      | 0         | 21.01                   | 21.15      | 21.10        | 21.50         |
|           |            | 36      | 18        | 20.81                   | 21.20      | 21.14        | 21.50         |
|           |            | 36      | 39        | 20.80                   | 21.19      | 21.09        | 21.50         |
|           |            | 75      | 0         | 20.97                   | 21.01      | 21.11        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 40240/2555              | 40690/2600 | 41140/2645   |               |
| 20MHz     | QPSK       | 1       | 0         | 23.64                   | 23.57      | 23.78        | 24.50         |
|           |            | 1       | 50        | 23.43                   | 23.51      | 23.63        | 24.50         |
|           |            | 1       | 99        | 23.38                   | 23.56      | 23.91        | 24.50         |
|           |            | 50      | 0         | 22.64                   | 22.82      | 22.89        | 23.50         |



|  |       |     |    |       |       |       |       |
|--|-------|-----|----|-------|-------|-------|-------|
|  |       | 50  | 25 | 22.61 | 22.78 | 22.87 | 23.50 |
|  |       | 50  | 50 | 22.75 | 22.77 | 22.92 | 23.50 |
|  |       | 100 | 0  | 22.82 | 22.75 | 22.88 | 23.50 |
|  | 16QAM | 1   | 0  | 22.67 | 22.76 | 22.59 | 23.50 |
|  |       | 1   | 50 | 22.84 | 22.88 | 22.75 | 23.50 |
|  |       | 1   | 99 | 22.76 | 22.53 | 22.68 | 23.50 |
|  |       | 50  | 0  | 21.49 | 21.64 | 21.73 | 22.50 |
|  |       | 50  | 25 | 21.48 | 21.84 | 21.75 | 22.50 |
|  |       | 50  | 50 | 21.51 | 21.82 | 21.80 | 22.50 |
|  |       | 100 | 0  | 21.53 | 21.75 | 21.82 | 22.50 |
|  | 64QAM | 1   | 0  | 21.79 | 21.92 | 22.06 | 22.50 |
|  |       | 1   | 50 | 21.57 | 21.96 | 21.88 | 22.50 |
|  |       | 1   | 99 | 21.75 | 22.14 | 22.05 | 22.50 |
|  |       | 50  | 0  | 20.98 | 21.11 | 21.07 | 21.50 |
|  |       | 50  | 25 | 20.78 | 21.18 | 21.11 | 21.50 |
|  |       | 50  | 50 | 20.77 | 21.14 | 21.05 | 21.50 |
|  |       | 100 | 0  | 20.95 | 20.97 | 21.08 | 21.50 |

| LTE TDD Band 41<br>(REC Off+Wi-Fi/BT) |            |         |           | Conducted Power(dBm)    |            |              |                  |
|---------------------------------------|------------|---------|-----------|-------------------------|------------|--------------|------------------|
| Bandwidth                             | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up<br>Limit |
|                                       |            |         |           | 40165/2547.5            | 40690/2600 | 41215/2652.5 |                  |
| 5MHz                                  | QPSK       | 1       | 0         | 20.64                   | 20.69      | 20.93        | 21.50            |
|                                       |            | 1       | 13        | 20.64                   | 20.73      | 20.29        | 21.50            |
|                                       |            | 1       | 24        | 20.76                   | 20.83      | 21.00        | 21.50            |
|                                       |            | 12      | 0         | 20.54                   | 20.75      | 21.00        | 21.50            |
|                                       |            | 12      | 6         | 20.79                   | 20.70      | 20.99        | 21.50            |
|                                       |            | 12      | 13        | 20.75                   | 20.74      | 21.02        | 21.50            |
|                                       |            | 25      | 0         | 20.85                   | 20.80      | 20.98        | 21.50            |
|                                       | 16QAM      | 1       | 0         | 20.86                   | 20.64      | 20.82        | 21.50            |
|                                       |            | 1       | 13        | 20.42                   | 20.60      | 20.63        | 21.50            |
|                                       |            | 1       | 24        | 20.59                   | 20.76      | 20.72        | 21.50            |
|                                       |            | 12      | 0         | 20.50                   | 20.68      | 21.00        | 21.50            |
|                                       |            | 12      | 6         | 20.76                   | 20.71      | 20.95        | 21.50            |
|                                       |            | 12      | 13        | 20.70                   | 20.62      | 21.01        | 21.50            |
|                                       |            | 25      | 0         | 20.71                   | 20.68      | 20.95        | 21.50            |
|                                       | 64QAM      | 1       | 0         | 19.78                   | 20.72      | 21.02        | 21.50            |
|                                       |            | 1       | 13        | 19.96                   | 20.54      | 19.95        | 21.50            |
|                                       |            | 1       | 24        | 20.94                   | 20.79      | 20.96        | 21.50            |
|                                       |            | 12      | 0         | 20.44                   | 20.62      | 20.90        | 21.50            |
|                                       |            | 12      | 6         | 20.83                   | 20.67      | 20.99        | 21.50            |
|                                       |            | 12      | 13        | 20.49                   | 20.67      | 20.82        | 21.50            |
|                                       |            | 25      | 0         | 20.68                   | 20.66      | 20.94        | 21.50            |



| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|-----------|------------|---------|-----------|-------------------------|------------|--------------|---------------|
|           |            |         |           | 40190/2550              | 40690/2600 | 41190/2650   |               |
| 10MHz     | QPSK       | 1       | 0         | 20.66                   | 20.70      | 20.96        | 21.50         |
|           |            | 1       | 25        | 20.67                   | 20.78      | 20.33        | 21.50         |
|           |            | 1       | 49        | 20.78                   | 20.87      | 21.03        | 21.50         |
|           |            | 25      | 0         | 20.57                   | 20.80      | 21.04        | 21.50         |
|           |            | 25      | 13        | 20.82                   | 20.75      | 21.03        | 21.50         |
|           |            | 25      | 25        | 20.77                   | 20.78      | 21.07        | 21.50         |
|           |            | 50      | 0         | 20.93                   | 20.82      | 21.02        | 21.50         |
|           | 16QAM      | 1       | 0         | 20.88                   | 20.67      | 20.84        | 21.50         |
|           |            | 1       | 25        | 20.45                   | 20.64      | 20.66        | 21.50         |
|           |            | 1       | 49        | 20.62                   | 20.78      | 20.75        | 21.50         |
|           |            | 25      | 0         | 20.53                   | 20.73      | 21.04        | 21.50         |
|           |            | 25      | 13        | 20.78                   | 20.75      | 20.98        | 21.50         |
|           |            | 25      | 25        | 20.73                   | 20.67      | 21.05        | 21.50         |
|           |            | 50      | 0         | 20.74                   | 20.73      | 20.99        | 21.50         |
|           | 64QAM      | 1       | 0         | 19.80                   | 20.75      | 21.04        | 21.50         |
|           |            | 1       | 25        | 19.99                   | 20.58      | 19.98        | 21.50         |
|           |            | 1       | 49        | 20.97                   | 20.81      | 20.99        | 21.50         |
|           |            | 25      | 0         | 20.47                   | 20.67      | 20.94        | 21.50         |
|           |            | 25      | 13        | 20.85                   | 20.71      | 21.02        | 21.50         |
|           |            | 25      | 25        | 20.52                   | 20.72      | 20.86        | 21.50         |
|           |            | 50      | 0         | 20.71                   | 20.71      | 20.98        | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |              | Tune-up Limit |
|           |            |         |           | 40215/2552.5            | 40690/2600 | 41165/2647.5 |               |
| 15MHz     | QPSK       | 1       | 0         | 20.65                   | 20.66      | 20.94        | 21.50         |
|           |            | 1       | 38        | 20.65                   | 20.77      | 20.30        | 21.50         |
|           |            | 1       | 74        | 20.75                   | 20.82      | 20.99        | 21.50         |
|           |            | 36      | 0         | 20.55                   | 20.76      | 21.01        | 21.50         |
|           |            | 36      | 18        | 20.79                   | 20.70      | 20.99        | 21.50         |
|           |            | 36      | 39        | 20.74                   | 20.75      | 21.03        | 21.50         |
|           |            | 75      | 0         | 20.91                   | 20.78      | 20.97        | 21.50         |
|           | 16QAM      | 1       | 0         | 20.83                   | 20.65      | 20.82        | 21.50         |
|           |            | 1       | 38        | 20.43                   | 20.61      | 20.64        | 21.50         |
|           |            | 1       | 74        | 20.59                   | 20.74      | 20.72        | 21.50         |
|           |            | 36      | 0         | 20.50                   | 20.71      | 21.01        | 21.50         |
|           |            | 36      | 18        | 20.75                   | 20.70      | 20.94        | 21.50         |
|           |            | 36      | 39        | 20.71                   | 20.63      | 21.02        | 21.50         |
|           |            | 75      | 0         | 20.71                   | 20.68      | 20.95        | 21.50         |
|           | 64QAM      | 1       | 0         | 19.75                   | 20.73      | 21.02        | 21.50         |
|           |            | 1       | 38        | 19.97                   | 20.55      | 19.96        | 21.50         |
|           |            | 1       | 74        | 20.94                   | 20.77      | 20.96        | 21.50         |
|           |            | 36      | 0         | 20.44                   | 20.65      | 20.91        | 21.50         |



|           |            | 36      | 18        | 20.82                   | 20.66      | 20.98      | 21.50         |
|-----------|------------|---------|-----------|-------------------------|------------|------------|---------------|
|           |            | 36      | 39        | 20.50                   | 20.68      | 20.83      | 21.50         |
|           |            | 75      | 0         | 20.68                   | 20.66      | 20.94      | 21.50         |
| Bandwidth | Modulation | RB size | RB offset | Channel/Frequency (MHz) |            |            | Tune-up Limit |
|           |            |         |           | 40240/2555              | 40690/2600 | 41140/2645 |               |
| 20MHz     | QPSK       | 1       | 0         | 20.62                   | 20.62      | 20.91      | 21.50         |
|           |            | 1       | 50        | 20.64                   | 20.73      | 20.28      | 21.50         |
|           |            | 1       | 99        | 20.73                   | 20.81      | 20.96      | 21.50         |
|           |            | 50      | 0         | 20.52                   | 20.71      | 20.97      | 21.50         |
|           |            | 50      | 25        | 20.77                   | 20.66      | 20.96      | 21.50         |
|           |            | 50      | 50        | 20.71                   | 20.70      | 20.99      | 21.50         |
|           |            | 100     | 0         | 20.88                   | 20.73      | 20.93      | 21.50         |
|           | 16QAM      | 1       | 0         | 20.81                   | 20.61      | 20.77      | 21.50         |
|           |            | 1       | 50        | 20.39                   | 20.59      | 20.60      | 21.50         |
|           |            | 1       | 99        | 20.57                   | 20.71      | 20.70      | 21.50         |
|           |            | 50      | 0         | 20.47                   | 20.67      | 20.98      | 21.50         |
|           |            | 50      | 25        | 20.72                   | 20.68      | 20.91      | 21.50         |
|           |            | 50      | 50        | 20.68                   | 20.58      | 20.98      | 21.50         |
|           |            | 100     | 0         | 20.69                   | 20.64      | 20.92      | 21.50         |
|           | 64QAM      | 1       | 0         | 19.73                   | 20.69      | 20.97      | 21.50         |
|           |            | 1       | 50        | 19.93                   | 20.53      | 19.92      | 21.50         |
|           |            | 1       | 99        | 20.92                   | 20.74      | 20.94      | 21.50         |
|           |            | 50      | 0         | 20.41                   | 20.61      | 20.88      | 21.50         |
|           |            | 50      | 25        | 20.79                   | 20.64      | 20.95      | 21.50         |
|           |            | 50      | 50        | 20.47                   | 20.63      | 20.79      | 21.50         |
|           |            | 100     | 0         | 20.66                   | 20.62      | 20.91      | 21.50         |

| DL LTE CA Class | PCC      |                     |                |                  |                |                | SCC      |                     |                | Power(dBm) |           |       | Tune-up Limit (dBm) |
|-----------------|----------|---------------------|----------------|------------------|----------------|----------------|----------|---------------------|----------------|------------|-----------|-------|---------------------|
|                 | PCC Band | PCC Bandwidth (MHz) | PCC UL RB size | PCC UL RB offset | PCC UL Channel | PCC DL Channel | SCC Band | SCC Bandwidth (MHz) | SCC DL Channel | Standalone | CA active | Delta |                     |
| CA_2C           | 2        | 5                   | 1              | 0                | 18808          | 808            | 2        | 20                  | 925            | 22.15      | 22.17     | -0.02 | 22.50               |
|                 | 2        | 10                  | 1              | 0                | 18806          | 806            | 2        | 20                  | 950            | 22.17      | 22.2      | -0.03 | 22.50               |
|                 | 2        | 15                  | 1              | 0                | 18803          | 803            | 2        | 20                  | 974            | 22.13      | 22.16     | -0.03 | 22.50               |
|                 | 2        | 20                  | 1              | 0                | 18801          | 801            | 2        | 20                  | 999            | 22.08      | 22.05     | 0.03  | 22.50               |
| CA_5B           | 5        | 5                   | 1              | 24               | 20528          | 2528           | 5        | 10                  | 2600           | 22.93      | 22.96     | -0.03 | 23.50               |
|                 | 5        | 5                   | 1              | 49               | 20501          | 2501           | 5        | 10                  | 2600           | 22.91      | 22.94     | -0.03 | 23.50               |
| CA_7C           | 7        | 10                  | 1              | 0                | 20805          | 2805           | 7        | 20                  | 2949           | 20.51      | 20.56     | -0.05 | 21.00               |
|                 | 7        | 15                  | 1              | 0                | 20828          | 2828           | 7        | 20                  | 2999           | 20.50      | 20.51     | -0.01 | 21.00               |
|                 | 7        | 20                  | 1              | 0                | 20850          | 2850           | 7        | 20                  | 3048           | 20.47      | 20.50     | -0.03 | 21.00               |
| CA_12B          | 12       | 5                   | 1              | 0                | 23058          | 5058           | 12       | 10                  | 5130           | 22.91      | 22.96     | -0.05 | 23.50               |
| CA_38C          | 38       | 15                  | 1              | 74               | 38025          | 38025          | 38       | 15                  | 38175          | 23.17      | 23.19     | -0.02 | 24.00               |
|                 | 38       | 20                  | 1              | 99               | 37952          | 37952          | 38       | 20                  | 38150          | 23.13      | 23.17     | -0.04 | 24.00               |



|           |    |     |   |    |       |       |    |    |       |       |       |       |       |
|-----------|----|-----|---|----|-------|-------|----|----|-------|-------|-------|-------|-------|
| CA_41C    | 41 | 5   | 1 | 24 | 41023 | 41023 | 41 | 20 | 41140 | 23.91 | 23.90 | 0.01  | 24.50 |
|           | 41 | 10  | 1 | 49 | 40996 | 40996 | 41 | 20 | 41140 | 23.93 | 23.89 | 0.04  | 24.50 |
|           | 41 | 15  | 1 | 74 | 40969 | 40969 | 41 | 20 | 41140 | 23.90 | 23.87 | 0.03  | 24.50 |
|           | 41 | 20  | 1 | 99 | 40942 | 40942 | 41 | 20 | 41140 | 23.89 | 23.88 | 0.01  | 24.50 |
| CA_2A-5A  | 2  | 5   | 1 | 0  | 18900 | 900   | 5  | 10 | 2525  | 22.14 | 22.16 | -0.02 | 22.50 |
|           | 2  | 10  | 1 | 0  | 18900 | 900   | 5  | 10 | 2525  | 22.15 | 22.16 | -0.01 | 22.50 |
|           | 2  | 15  | 1 | 0  | 18900 | 900   | 5  | 10 | 2525  | 22.11 | 22.14 | -0.03 | 22.50 |
|           | 2  | 20  | 1 | 0  | 18900 | 900   | 5  | 10 | 2525  | 22.07 | 22.04 | 0.03  | 22.50 |
|           | 5  | 5   | 1 | 24 | 20625 | 2625  | 2  | 20 | 1100  | 22.95 | 22.97 | -0.02 | 23.50 |
|           | 5  | 10  | 1 | 49 | 20600 | 2600  | 2  | 20 | 1100  | 22.92 | 22.90 | 0.02  | 23.50 |
| CA_2A-12A | 2  | 5   | 1 | 0  | 18900 | 900   | 12 | 10 | 5095  | 22.14 | 22.17 | -0.03 | 22.50 |
|           | 2  | 10  | 1 | 0  | 18900 | 900   | 12 | 10 | 5095  | 22.15 | 22.19 | -0.04 | 22.50 |
|           | 2  | 15  | 1 | 0  | 18900 | 900   | 12 | 10 | 5095  | 22.11 | 22.15 | -0.04 | 22.50 |
|           | 2  | 20  | 1 | 0  | 18900 | 900   | 12 | 10 | 5095  | 22.07 | 22.11 | -0.04 | 22.50 |
|           | 12 | 5   | 1 | 0  | 23155 | 5155  | 2  | 20 | 1100  | 22.85 | 22.90 | -0.05 | 23.50 |
|           | 12 | 10  | 1 | 0  | 23130 | 5130  | 2  | 20 | 1100  | 22.82 | 22.91 | -0.09 | 23.50 |
| CA_2A-17A | 2  | 5   | 1 | 0  | 18900 | 900   | 17 | 10 | 5790  | 22.14 | 22.16 | -0.02 | 22.50 |
|           | 2  | 10  | 1 | 0  | 18900 | 900   | 17 | 10 | 5790  | 22.15 | 22.14 | 0.01  | 22.50 |
|           | 17 | 5   | 1 | 24 | 23755 | 5755  | 2  | 20 | 700   | 22.82 | 22.86 | -0.04 | 22.50 |
|           | 17 | 10  | 1 | 49 | 23780 | 5780  | 2  | 20 | 700   | 22.77 | 22.86 | -0.09 | 22.50 |
| CA_4A-5A  | 4  | 5   | 1 | 0  | 19975 | 1975  | 5  | 10 | 2450  | 23.24 | 23.26 | -0.02 | 23.80 |
|           | 4  | 10  | 1 | 0  | 20000 | 2000  | 5  | 10 | 2450  | 23.26 | 23.21 | 0.05  | 23.80 |
|           | 4  | 15  | 1 | 0  | 20025 | 2025  | 5  | 10 | 2450  | 23.25 | 23.28 | -0.03 | 23.80 |
|           | 4  | 20  | 1 | 0  | 20050 | 2050  | 5  | 10 | 2450  | 23.22 | 23.23 | -0.01 | 23.80 |
|           | 5  | 5   | 1 | 24 | 20625 | 2625  | 4  | 20 | 2300  | 22.95 | 22.97 | -0.02 | 23.50 |
|           | 5  | 10  | 1 | 49 | 20600 | 2600  | 4  | 20 | 2300  | 22.92 | 22.93 | -0.01 | 23.50 |
| CA_4A-12A | 4  | 1.4 | 1 | 0  | 19957 | 1957  | 12 | 10 | 5060  | 23.29 | 23.32 | -0.03 | 23.80 |
|           | 4  | 3   | 1 | 0  | 19965 | 1965  | 12 | 10 | 5060  | 23.27 | 23.31 | -0.04 | 23.80 |
|           | 4  | 5   | 1 | 0  | 19975 | 1975  | 12 | 10 | 5060  | 23.24 | 23.26 | -0.02 | 23.80 |
|           | 4  | 10  | 1 | 0  | 20000 | 2000  | 12 | 10 | 5060  | 23.26 | 23.30 | -0.04 | 23.80 |
|           | 4  | 15  | 1 | 0  | 20025 | 2025  | 12 | 10 | 5060  | 23.25 | 23.24 | 0.01  | 23.80 |
|           | 4  | 20  | 1 | 0  | 20050 | 2050  | 12 | 10 | 5060  | 23.22 | 23.25 | -0.03 | 23.80 |
| CA_4A-17A | 4  | 5   | 1 | 0  | 19975 | 1975  | 17 | 10 | 5780  | 23.24 | 23.26 | -0.02 | 23.50 |
|           | 4  | 10  | 1 | 0  | 20000 | 2000  | 17 | 10 | 5780  | 23.26 | 23.25 | 0.01  | 23.50 |
| CA_5A-7A  | 5  | 1.4 | 1 | 5  | 20643 | 2407  | 7  | 20 | 3350  | 22.96 | 22.93 | 0.03  | 23.50 |
|           | 5  | 3   | 1 | 14 | 20635 | 2415  | 7  | 20 | 3350  | 22.99 | 23.00 | -0.01 | 23.50 |
|           | 5  | 5   | 1 | 24 | 20625 | 2425  | 7  | 20 | 3350  | 22.95 | 22.97 | -0.02 | 23.50 |
|           | 5  | 10  | 1 | 49 | 20600 | 2450  | 7  | 20 | 3350  | 22.92 | 22.91 | 0.01  | 23.50 |
|           | 7  | 10  | 1 | 0  | 20800 | 2800  | 5  | 10 | 2450  | 20.51 | 20.54 | -0.03 | 21.00 |
|           | 7  | 15  | 1 | 0  | 20825 | 2825  | 5  | 10 | 2450  | 20.50 | 20.57 | -0.07 | 21.00 |
|           | 7  | 20  | 1 | 0  | 20850 | 2850  | 5  | 10 | 2450  | 20.47 | 20.49 | -0.02 | 21.00 |
| CA_7A-12A | 7  | 5   | 1 | 0  | 20775 | 2775  | 12 | 10 | 5060  | 20.49 | 20.53 | -0.04 | 21.00 |
|           | 7  | 10  | 1 | 0  | 20800 | 2800  | 12 | 10 | 5060  | 20.51 | 20.48 | 0.03  | 21.00 |



|  |    |    |   |   |       |      |    |    |      |       |       |       |       |
|--|----|----|---|---|-------|------|----|----|------|-------|-------|-------|-------|
|  | 7  | 15 | 1 | 0 | 20825 | 2825 | 12 | 10 | 5060 | 20.50 | 20.51 | -0.01 | 21.00 |
|  | 7  | 20 | 1 | 0 | 20850 | 2850 | 12 | 10 | 5060 | 20.47 | 20.50 | -0.03 | 21.00 |
|  | 12 | 5  | 1 | 0 | 23155 | 5155 | 7  | 20 | 3350 | 22.85 | 22.93 | -0.08 | 23.50 |
|  | 12 | 10 | 1 | 0 | 23130 | 5130 | 7  | 20 | 3350 | 22.82 | 22.94 | -0.12 | 23.50 |

| DL LTE CA Class | PCC      |                     |                |                  |                |                | SCC1      |                      |                 | SCC2      |                      |                 | Power(dBm) |           |       | Tune-up Limit (dBm) |
|-----------------|----------|---------------------|----------------|------------------|----------------|----------------|-----------|----------------------|-----------------|-----------|----------------------|-----------------|------------|-----------|-------|---------------------|
|                 | PCC Band | PCC Bandwidth (MHz) | PCC UL RB size | PCC UL RB offset | PCC UL Channel | PCC DL Channel | SCC1 Band | SCC1 Bandwidth (MHz) | SCC1 DL Channel | SCC2 Band | SCC2 Bandwidth (MHz) | SCC2 DL Channel | Standalone | CA active | Delta |                     |
| CA_2A-12B       | 2        | 5                   | 1              | 0                | 18900          | 900            | 12        | 5                    | 5048            | 12        | 10                   | 5120            | 22.14      | 22.16     | -0.02 | 22.50               |
|                 | 2        | 10                  | 1              | 0                | 18900          | 900            | 12        | 5                    | 5048            | 12        | 10                   | 5120            | 22.15      | 22.16     | -0.01 | 22.50               |
|                 | 2        | 15                  | 1              | 0                | 18900          | 900            | 12        | 5                    | 5048            | 12        | 10                   | 5120            | 22.11      | 22.14     | -0.03 | 22.50               |
|                 | 2        | 20                  | 1              | 0                | 18900          | 900            | 12        | 5                    | 5048            | 12        | 10                   | 5120            | 22.07      | 22.08     | -0.01 | 22.50               |
|                 | 12       | 5                   | 1              | 0                | 23058          | 5058           | 12        | 10                   | 5130            | 2         | 20                   | 1100            | 22.91      | 22.95     | -0.04 | 23.50               |
| CA_4A-12B       | 4        | 5                   | 1              | 0                | 19975          | 1975           | 12        | 5                    | 5038            | 12        | 10                   | 5110            | 23.24      | 23.26     | -0.02 | 23.80               |
|                 | 4        | 10                  | 1              | 0                | 20000          | 2000           | 12        | 5                    | 5038            | 12        | 10                   | 5110            | 23.26      | 23.27     | -0.01 | 23.80               |
|                 | 4        | 15                  | 1              | 0                | 20025          | 2025           | 12        | 5                    | 5038            | 12        | 10                   | 5110            | 23.25      | 23.28     | -0.03 | 23.80               |
|                 | 4        | 20                  | 1              | 0                | 20050          | 2050           | 12        | 5                    | 5038            | 12        | 10                   | 5110            | 23.22      | 23.26     | -0.04 | 23.80               |
| CA_41D          | 41       | 10                  | 1              | 49               | 40798          | 40798          | 41        | 20                   | 40942           | 41        | 20                   | 41140           | 23.91      | 23.94     | -0.03 | 24.50               |
|                 | 41       | 15                  | 1              | 74               | 40771          | 40771          | 41        | 20                   | 40942           | 41        | 20                   | 41140           | 23.88      | 23.92     | -0.04 | 24.50               |
|                 | 41       | 20                  | 1              | 99               | 40744          | 40744          | 41        | 20                   | 40942           | 41        | 20                   | 41140           | 23.87      | 23.89     | -0.02 | 24.50               |

## 9.4 WLAN Mode

| Wi-Fi 2.4G     | Antenna   | Channel | Frequency (MHz) | Average Conducted Power (dBm) for Data Rates (bps) (REC On) |               | Average Conducted Power (dBm) for Data Rates (bps) (REC Off) |               |
|----------------|-----------|---------|-----------------|-------------------------------------------------------------|---------------|--------------------------------------------------------------|---------------|
| Mode           |           |         |                 | 1M                                                          | Tune-up Limit | 1M                                                           | Tune-up Limit |
| 802.11b        | Antenna 1 | 1       | 2412            | 12.22                                                       | 13.50         | 17.31                                                        | 18.50         |
|                |           | 6       | 2437            | 12.94                                                       | 13.50         | 17.97                                                        | 18.50         |
|                |           | 11      | 2462            | 12.57                                                       | 13.50         | 17.53                                                        | 18.50         |
|                | Antenna 2 | 1       | 2412            | 16.53                                                       | 18.00         | 17.12                                                        | 18.00         |
|                |           | 6       | 2437            | 16.87                                                       | 18.00         | 17.33                                                        | 18.00         |
|                |           | 11      | 2462            | 16.74                                                       | 18.00         | 17.26                                                        | 18.00         |
| Mode           | Antenna   | Channel | Frequency (MHz) | 6M                                                          | Tune-up Limit | 6M                                                           | Tune-up Limit |
| 802.11g        | Antenna 1 | 1       | 2412            | 12.14                                                       | 13.50         | 14.84                                                        | 16.50         |
|                |           | 6       | 2437            | 12.93                                                       | 13.50         | 15.45                                                        | 16.50         |
|                |           | 11      | 2462            | 12.64                                                       | 13.50         | 15.17                                                        | 16.50         |
|                | Antenna 2 | 1       | 2412            | 14.30                                                       | 16.00         | 14.32                                                        | 16.00         |
|                |           | 6       | 2437            | 14.54                                                       | 16.00         | 14.67                                                        | 16.00         |
|                |           | 11      | 2462            | 14.51                                                       | 16.00         | 14.56                                                        | 16.00         |
| Mode           | Antenna   | Channel | Frequency (MHz) | 6.5M                                                        | Tune-up Limit | 6M                                                           | Tune-up Limit |
| 802.11n (HT20) | Antenna 1 | 1       | 2412            | 12.11                                                       | 13.50         | 13.43                                                        | 15.00         |
|                |           | 6       | 2437            | 12.92                                                       | 13.50         | 13.93                                                        | 15.00         |
|                |           | 11      | 2462            | 12.59                                                       | 13.50         | 13.56                                                        | 15.00         |
|                | Antenna 2 | 1       | 2412            | 12.77                                                       | 14.50         | 12.86                                                        | 14.50         |
|                |           | 6       | 2437            | 13.02                                                       | 14.50         | 13.14                                                        | 14.50         |
|                |           | 11      | 2462            | 13.11                                                       | 14.50         | 12.93                                                        | 14.50         |

Note. 1. Per 248227, for SISO mode, SAR should be tested with 802.11b mode, respectively on ANT1 and ANT2; for CDD/MIMO mode, SAR should be tested with 802.11g mode.





| Wi-Fi 5G     | Antenna   | Channel | Frequency (MHz) | Average Conducted Power (dBm) for Data Rates (bps) (REC On) |               | Average Conducted Power (dBm) for Data Rates (bps) (REC Off) |               |
|--------------|-----------|---------|-----------------|-------------------------------------------------------------|---------------|--------------------------------------------------------------|---------------|
|              |           |         |                 | 6M                                                          | Tune-up Limit | 6M                                                           | Tune-up Limit |
| 802.11a      | Antenna 1 | 36      | 5180            | 9.74                                                        | 11.00         | 13.06                                                        | 14.00         |
|              |           | 40      | 5200            | 9.50                                                        | 11.00         | 12.95                                                        | 14.00         |
|              |           | 44      | 5220            | 9.44                                                        | 11.00         | 12.93                                                        | 14.00         |
|              |           | 48      | 5240            | 9.23                                                        | 11.00         | 12.91                                                        | 14.00         |
|              |           | 52      | 5260            | 9.36                                                        | 11.00         | 12.96                                                        | 14.00         |
|              |           | 56      | 5280            | 9.29                                                        | 11.00         | 12.93                                                        | 14.00         |
|              |           | 60      | 5300            | 9.13                                                        | 11.00         | 12.74                                                        | 14.00         |
|              |           | 64      | 5320            | 9.03                                                        | 11.00         | 12.84                                                        | 14.00         |
|              |           | 100     | 5500            | 9.37                                                        | 11.00         | 12.74                                                        | 14.00         |
|              |           | 116     | 5580            | 9.44                                                        | 11.00         | 12.81                                                        | 14.00         |
|              |           | 132     | 5660            | 9.51                                                        | 11.00         | 12.85                                                        | 14.00         |
|              |           | 140     | 5700            | 9.52                                                        | 11.00         | 13.00                                                        | 14.00         |
|              |           | 149     | 5745            | 8.68                                                        | 11.00         | 12.58                                                        | 14.00         |
|              |           | 157     | 5785            | 9.14                                                        | 11.00         | 12.75                                                        | 14.00         |
|              |           | 165     | 5825            | 9.04                                                        | 11.00         | 12.91                                                        | 14.00         |
|              | Antenna 2 | 36      | 5180            | 9.51                                                        | 10.50         | 11.51                                                        | 12.50         |
|              |           | 40      | 5200            | 9.49                                                        | 10.50         | 11.46                                                        | 12.50         |
|              |           | 44      | 5220            | 9.44                                                        | 10.50         | 11.44                                                        | 12.50         |
|              |           | 48      | 5240            | 9.37                                                        | 10.50         | 11.34                                                        | 12.50         |
|              |           | 52      | 5260            | 9.43                                                        | 10.50         | 11.20                                                        | 12.50         |
|              |           | 56      | 5280            | 9.44                                                        | 10.50         | 11.28                                                        | 12.50         |
|              |           | 60      | 5300            | 9.32                                                        | 10.50         | 11.29                                                        | 12.50         |
|              |           | 64      | 5320            | 9.41                                                        | 10.50         | 11.36                                                        | 12.50         |
|              |           | 100     | 5500            | 9.71                                                        | 10.50         | 11.70                                                        | 12.50         |
|              |           | 116     | 5580            | 9.54                                                        | 10.50         | 11.72                                                        | 12.50         |
|              |           | 132     | 5660            | 9.62                                                        | 10.50         | 11.63                                                        | 12.50         |
|              |           | 140     | 5700            | 9.45                                                        | 10.50         | 11.49                                                        | 12.50         |
|              |           | 149     | 5745            | 9.51                                                        | 10.50         | 11.28                                                        | 12.50         |
|              |           | 157     | 5785            | 9.28                                                        | 10.50         | 11.06                                                        | 12.50         |
|              |           | 165     | 5825            | 9.16                                                        | 10.50         | 10.87                                                        | 12.50         |
| Mode         | Antenna   | Channel | Frequency (MHz) | MCS0                                                        | Tune-up Limit | MCS0                                                         | Tune-up Limit |
| 802.11n HT20 | Antenna 1 | 36      | 5180            | 9.69                                                        | 11.00         | 13.03                                                        | 14.00         |
|              |           | 40      | 5200            | 9.56                                                        | 11.00         | 12.93                                                        | 14.00         |
|              |           | 44      | 5220            | 9.37                                                        | 11.00         | 12.77                                                        | 14.00         |
|              |           | 48      | 5240            | 9.26                                                        | 11.00         | 12.69                                                        | 14.00         |
|              |           | 52      | 5260            | 9.37                                                        | 11.00         | 12.86                                                        | 14.00         |



|                 |           | 56      | 5280            | 9.14 | 11.00         | 12.77 | 14.00         |
|-----------------|-----------|---------|-----------------|------|---------------|-------|---------------|
|                 |           | 60      | 5300            | 9.13 | 11.00         | 12.46 | 14.00         |
|                 |           | 64      | 5320            | 9.06 | 11.00         | 12.51 | 14.00         |
|                 |           | 100     | 5500            | 9.37 | 11.00         | 12.80 | 14.00         |
|                 |           | 116     | 5580            | 9.29 | 11.00         | 12.75 | 14.00         |
|                 |           | 132     | 5660            | 9.53 | 11.00         | 12.74 | 14.00         |
|                 |           | 140     | 5700            | 9.48 | 11.00         | 12.97 | 14.00         |
|                 |           | 149     | 5745            | 8.73 | 11.00         | 12.57 | 14.00         |
|                 |           | 157     | 5785            | 8.87 | 11.00         | 12.71 | 14.00         |
|                 |           | 165     | 5825            | 9.01 | 11.00         | 12.89 | 14.00         |
|                 | Antenna 2 | 36      | 5180            | 9.48 | 10.50         | 11.34 | 12.50         |
|                 |           | 40      | 5200            | 9.35 | 10.50         | 11.30 | 12.50         |
|                 |           | 44      | 5220            | 9.33 | 10.50         | 11.41 | 12.50         |
|                 |           | 48      | 5240            | 9.36 | 10.50         | 11.31 | 12.50         |
|                 |           | 52      | 5260            | 9.19 | 10.50         | 11.32 | 12.50         |
|                 |           | 56      | 5280            | 9.37 | 10.50         | 11.21 | 12.50         |
|                 |           | 60      | 5300            | 9.25 | 10.50         | 11.23 | 12.50         |
|                 |           | 64      | 5320            | 9.32 | 10.50         | 11.27 | 12.50         |
|                 |           | 100     | 5500            | 9.63 | 10.50         | 11.72 | 12.50         |
|                 |           | 116     | 5580            | 9.67 | 10.50         | 11.66 | 12.50         |
|                 |           | 132     | 5660            | 9.56 | 10.50         | 11.53 | 12.50         |
|                 |           | 140     | 5700            | 9.31 | 10.50         | 11.47 | 12.50         |
|                 |           | 149     | 5745            | 9.34 | 10.50         | 11.27 | 12.50         |
|                 |           | 157     | 5785            | 9.16 | 10.50         | 11.22 | 12.50         |
|                 |           | 165     | 5825            | 8.89 | 10.50         | 11.04 | 12.50         |
| Mode            | Antenna   | Channel | Frequency (MHz) | MCS0 | Tune-up Limit | MCS0  | Tune-up Limit |
| 802.11n<br>HT40 | Antenna 1 | 38      | 5190            | 9.32 | 11.00         | 11.13 | 12.50         |
|                 |           | 46      | 5270            | 9.06 | 11.00         | 10.96 | 12.50         |
|                 |           | 54      | 5270            | 9.37 | 11.00         | 11.44 | 12.50         |
|                 |           | 62      | 5310            | 9.07 | 11.00         | 10.98 | 12.50         |
|                 |           | 102     | 5510            | 9.09 | 11.00         | 11.07 | 12.50         |
|                 |           | 110     | 5550            | 9.11 | 11.00         | 11.14 | 12.50         |
|                 |           | 118     | 5590            | 9.15 | 11.00         | 11.05 | 12.50         |
|                 |           | 134     | 5670            | 9.14 | 11.00         | 11.10 | 12.50         |
|                 |           | 151     | 5755            | 9.04 | 11.00         | 10.98 | 12.50         |
|                 |           | 159     | 5795            | 9.03 | 11.00         | 11.11 | 12.50         |
|                 | Antenna 2 | 38      | 5190            | 8.37 | 10.00         | 9.27  | 11.00         |
|                 |           | 46      | 5270            | 8.35 | 10.00         | 9.26  | 11.00         |
|                 |           | 54      | 5270            | 8.30 | 10.00         | 9.51  | 11.00         |
|                 |           | 62      | 5310            | 8.42 | 10.00         | 9.36  | 11.00         |
|                 |           | 102     | 5510            | 8.41 | 10.00         | 9.65  | 11.00         |
|                 |           | 110     | 5550            | 8.34 | 10.00         | 9.62  | 11.00         |



|                  |           | 118     | 5590            | 8.46 | 10.00         | 9.59  | 11.00         |
|------------------|-----------|---------|-----------------|------|---------------|-------|---------------|
|                  |           | 134     | 5670            | 8.41 | 10.00         | 9.44  | 11.00         |
|                  |           | 151     | 5755            | 8.60 | 10.00         | 9.64  | 11.00         |
|                  |           | 159     | 5795            | 8.52 | 10.00         | 9.61  | 11.00         |
| Mode             | Antenna   | Channel | Frequency (MHz) | MCS0 | Tune-up Limit | MCS0  | Tune-up Limit |
| 802.11ac<br>HT20 | Antenna 1 | 36      | 5180            | 9.73 | 11.00         | 13.04 | 14.00         |
|                  |           | 40      | 5200            | 9.55 | 11.00         | 12.92 | 14.00         |
|                  |           | 44      | 5220            | 9.36 | 11.00         | 12.76 | 14.00         |
|                  |           | 48      | 5240            | 9.29 | 11.00         | 12.78 | 14.00         |
|                  |           | 52      | 5260            | 9.38 | 11.00         | 12.93 | 14.00         |
|                  |           | 56      | 5280            | 9.14 | 11.00         | 12.64 | 14.00         |
|                  |           | 60      | 5300            | 9.09 | 11.00         | 12.62 | 14.00         |
|                  |           | 64      | 5320            | 9.13 | 11.00         | 12.51 | 14.00         |
|                  |           | 100     | 5500            | 9.40 | 11.00         | 12.83 | 14.00         |
|                  |           | 116     | 5580            | 9.27 | 11.00         | 12.75 | 14.00         |
|                  |           | 132     | 5660            | 9.51 | 11.00         | 12.70 | 14.00         |
|                  |           | 140     | 5700            | 9.47 | 11.00         | 12.94 | 14.00         |
|                  |           | 149     | 5745            | 8.71 | 11.00         | 12.47 | 14.00         |
|                  |           | 157     | 5785            | 8.93 | 11.00         | 12.69 | 14.00         |
|                  |           | 165     | 5825            | 9.11 | 11.00         | 12.86 | 14.00         |
|                  | Antenna 2 | 36      | 5180            | 9.51 | 10.50         | 11.56 | 12.50         |
|                  |           | 40      | 5200            | 9.44 | 10.50         | 11.29 | 12.50         |
|                  |           | 44      | 5220            | 9.26 | 10.50         | 11.25 | 12.50         |
|                  |           | 48      | 5240            | 9.29 | 10.50         | 11.31 | 12.50         |
|                  |           | 52      | 5260            | 9.23 | 10.50         | 11.21 | 12.50         |
|                  |           | 56      | 5280            | 9.34 | 10.50         | 11.22 | 12.50         |
|                  |           | 60      | 5300            | 9.28 | 10.50         | 11.21 | 12.50         |
|                  |           | 64      | 5320            | 9.29 | 10.50         | 11.27 | 12.50         |
|                  |           | 100     | 5500            | 9.67 | 10.50         | 11.73 | 12.50         |
|                  |           | 116     | 5580            | 9.53 | 10.50         | 11.54 | 12.50         |
|                  |           | 132     | 5660            | 9.54 | 10.50         | 11.47 | 12.50         |
|                  |           | 140     | 5700            | 9.58 | 10.50         | 11.41 | 12.50         |
|                  |           | 149     | 5745            | 9.22 | 10.50         | 11.24 | 12.50         |
|                  |           | 157     | 5785            | 9.13 | 10.50         | 11.12 | 12.50         |
|                  |           | 165     | 5825            | 9.16 | 10.50         | 10.96 | 12.50         |
| Mode             | Antenna   | Channel | Frequency (MHz) | MCS0 | Tune-up Limit | MCS0  | Tune-up Limit |
| 802.11ac<br>HT40 | Antenna 1 | 38      | 5190            | 9.34 | 11.00         | 10.79 | 12.50         |
|                  |           | 46      | 5270            | 9.06 | 11.00         | 10.56 | 12.50         |
|                  |           | 54      | 5270            | 9.32 | 11.00         | 10.86 | 12.50         |
|                  |           | 62      | 5310            | 9.24 | 11.00         | 10.68 | 12.50         |
|                  |           | 102     | 5510            | 9.17 | 11.00         | 10.53 | 12.50         |



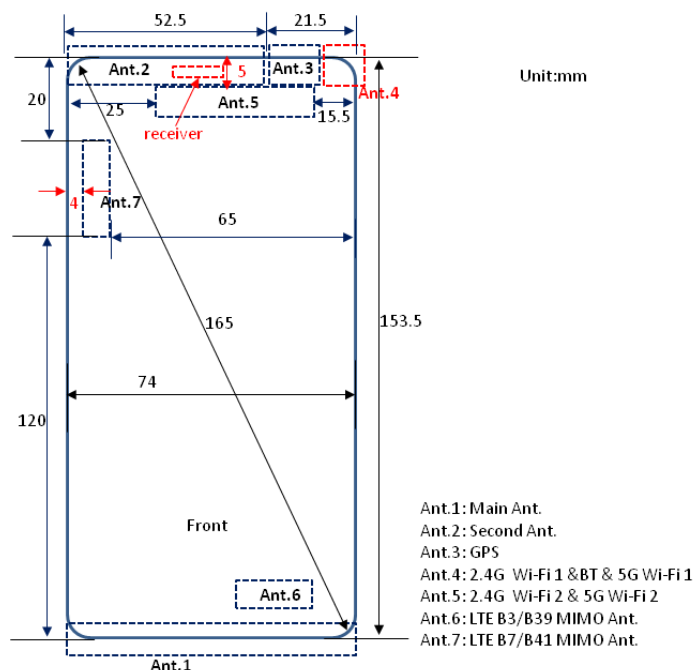
|                                                                                                                                                                                     |           |         |                 |      |               |       |               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------|-----------------|------|---------------|-------|---------------|
|                                                                                                                                                                                     |           | 110     | 5550            | 9.13 | 11.00         | 10.53 | 12.50         |
|                                                                                                                                                                                     |           | 118     | 5590            | 9.11 | 11.00         | 10.52 | 12.50         |
|                                                                                                                                                                                     |           | 134     | 5670            | 9.05 | 11.00         | 10.57 | 12.50         |
|                                                                                                                                                                                     |           | 151     | 5755            | 9.06 | 11.00         | 10.64 | 12.50         |
|                                                                                                                                                                                     |           | 159     | 5795            | 9.11 | 11.00         | 10.61 | 12.50         |
|                                                                                                                                                                                     | Antenna 2 | 38      | 5190            | 9.07 | 10.00         | 9.28  | 11.00         |
|                                                                                                                                                                                     |           | 46      | 5270            | 9.04 | 10.00         | 9.29  | 11.00         |
|                                                                                                                                                                                     |           | 54      | 5270            | 9.08 | 10.00         | 9.34  | 11.00         |
|                                                                                                                                                                                     |           | 62      | 5310            | 9.01 | 10.00         | 9.38  | 11.00         |
|                                                                                                                                                                                     |           | 102     | 5510            | 8.95 | 10.00         | 9.69  | 11.00         |
|                                                                                                                                                                                     |           | 110     | 5550            | 8.94 | 10.00         | 9.61  | 11.00         |
|                                                                                                                                                                                     |           | 118     | 5590            | 8.83 | 10.00         | 9.58  | 11.00         |
|                                                                                                                                                                                     |           | 134     | 5670            | 9.54 | 10.00         | 9.53  | 11.00         |
|                                                                                                                                                                                     |           | 151     | 5755            | 8.66 | 10.00         | 9.74  | 11.00         |
|                                                                                                                                                                                     |           | 159     | 5795            | 8.47 | 10.00         | 9.56  | 11.00         |
| Mode                                                                                                                                                                                | Antenna   | Channel | Frequency (MHz) | MCS0 | Tune-up Limit | MCS0  | Tune-up Limit |
| 802.11ac<br>HT80                                                                                                                                                                    | Antenna 1 | 42      | 5210            | 9.65 | 11.00         | 10.91 | 12.50         |
|                                                                                                                                                                                     |           | 58      | 5290            | 9.62 | 11.00         | 11.01 | 12.50         |
|                                                                                                                                                                                     |           | 106     | 5530            | 9.69 | 11.00         | 10.74 | 12.50         |
|                                                                                                                                                                                     |           | 155     | 5775            | 9.88 | 11.00         | 10.51 | 12.50         |
|                                                                                                                                                                                     | Antenna 2 | 42      | 5210            | 9.08 | 10.00         | 9.01  | 11.00         |
|                                                                                                                                                                                     |           | 58      | 5290            | 9.19 | 10.00         | 9.06  | 11.00         |
|                                                                                                                                                                                     |           | 106     | 5530            | 9.53 | 10.00         | 9.29  | 11.00         |
|                                                                                                                                                                                     |           | 155     | 5775            | 9.40 | 10.00         | 9.25  | 11.00         |
| Note. 1. Per 248227, For ANT1 head SAR should be tested with 802.11ac 80MHz mode, and body SAR should be tested with 802.11a mode; For ANT2 SAR should be tested with 802.11a mode. |           |         |                 |      |               |       |               |

## 9.5 Bluetooth Mode

| BT       | Conducted Power(dBm)   |                |                | Tune-up<br>Limit (dBm) |
|----------|------------------------|----------------|----------------|------------------------|
|          | Channel/Frequency(MHz) |                |                |                        |
|          | Ch 0/2402 MHz          | Ch 39/2441 MHz | Ch 78/2480 MHz |                        |
| GFSK     | 11.28                  | 12.84          | 11.67          | 13.10                  |
| π/4DQPSK | 5.77                   | 6.29           | 5.60           | 13.10                  |
| 8DPSK    | 5.78                   | 6.31           | 5.59           | 13.10                  |
| BLE      | Ch 0/2402 MHz          | Ch 19/2440 MHz | Ch 39/2480 MHz | Tune-up<br>Limit (dBm) |
| GFSK     | 1.10                   | 1.72           | 0.61           | 7.10                   |

## 10 Measured and Reported (Scaled) SAR Results

### 10.1 EUT Antenna Locations



Overall (Length x Width): 153.5 mm x 74 mm

Overall Diagonal: 165 mm

Distance of the Antenna to the EUT surface/edge

| Antenna                      | Back Side | Front side | Left Edge | Right Edge | Top Edge | Bottom Edge |
|------------------------------|-----------|------------|-----------|------------|----------|-------------|
| Main Antenna (Antenna 1)     | 0         | 0          | 0         | 0          | >25      | 0           |
| Sub Antenna (Antenna 2)      | 0         | 0          | 0         | <25        | 0        | >25         |
| BT/Wi-Fi Antenna (Antenna 4) | 0         | 0          | >25       | 0          | 0        | >25         |
| Wi-Fi Antenna (Antenna 5)    | 0         | 0          | =25       | <25        | <25      | >25         |

Hotspot mode, Positions for SAR tests

| Mode                         | Back Side | Front side | Left Edge | Right Edge | Top Edge | Bottom Edge |
|------------------------------|-----------|------------|-----------|------------|----------|-------------|
| Main Antenna (Antenna 1)     | Yes       | Yes        | Yes       | Yes        | N/A      | Yes         |
| Sub Antenna (Antenna 2)      | Yes       | Yes        | Yes       | Yes        | Yes      | N/A         |
| BT/Wi-Fi Antenna (Antenna 4) | Yes       | Yes        | N/A       | Yes        | Yes      | N/A         |
| Wi-Fi Antenna (Antenna 5)    | Yes       | Yes        | Yes       | Yes        | Yes      | N/A         |

Note: 1. Per KDB 941225 D06, when the overall device length and width are  $\geq 9\text{cm} \times 5\text{cm}$ , the test distance is 10mm. SAR must be measured for all sides and surfaces with a transmitting antenna located within 25mm from that surface or edge.

2. The Main Antenna (Ant1) and Secondary Antenna (Ant 2) support the same 2G/3G/4G operating bands. Main antenna (Ant1) and Secondary antenna (Ant 2) can't transmit simultaneously which will be chosen based on the RSSI. Only one antenna can be used for 2G/3G/4G transmission at a time. Ant.6 and Ant.7 can only support Rx function.

## 10.2 Standalone SAR test exclusion considerations

Per KDB 447498 D01, the 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances  $\leq 50$  mm are determined by:

$[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for Product Specific 10-g SAR

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Per KDB 447498 D01, when the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

| Bluetooth | Distance (mm) | MAX Power (dBm) | Frequency (MHz) | Ratio | Evaluation |
|-----------|---------------|-----------------|-----------------|-------|------------|
| Head      | 5             | 13.10           | 2480            | 6.43  | Yes        |
| Body-worn | 15            | 13.10           | 2480            | 2.14  | No         |
| Hotspot   | 10            | 13.10           | 2480            | 3.22  | Yes        |
| Extremity | 5             | 13.10           | 2480            | 6.43  | No         |



## 10.3 Measured SAR Results

Table 1: GSM 850 (Antenna 1)

| Test Position             | Cover Type | Channel/Frequency (MHz) | Time slot | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|---------------------------|------------|-------------------------|-----------|------------|---------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR                  |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                | standard   | 190/836.6               | GSM       | 1:8.3      | 33.60               | 32.57                 | 0.140      | 0.196                             | 1.27           | 0.248                             | /        |
| Left Tilt                 | standard   | 190/836.6               | GSM       | 1:8.3      | 33.60               | 32.57                 | 0.040      | 0.124                             | 1.27           | 0.157                             | /        |
| Right Cheek               | standard   | 190/836.6               | GSM       | 1:8.3      | 33.60               | 32.57                 | -0.040     | 0.270                             | 1.27           | 0.342                             | 34       |
| Right Tilt                | standard   | 190/836.6               | GSM       | 1:8.3      | 33.60               | 32.57                 | 0.010      | 0.143                             | 1.27           | 0.181                             | /        |
| Right Cheek               | SIM 2      | 190/836.6               | GSM       | 1:8.3      | 33.60               | 32.57                 | 0.016      | 0.254                             | 1.27           | 0.322                             | /        |
| Right Cheek               | Battery 2  | 190/836.6               | GSM       | 1:8.3      | 33.60               | 32.57                 | 0.050      | 0.261                             | 1.27           | 0.331                             | /        |
| Right Cheek               | Battery 3  | 190/836.6               | GSM       | 1:8.3      | 33.60               | 32.57                 | 0.017      | 0.264                             | 1.27           | 0.335                             | /        |
| Body-worn (Distance 15mm) |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                 | standard   | 190/836.6               | GSM       | 1:8.3      | 33.60               | 32.57                 | 0.000      | 0.373                             | 1.27           | 0.473                             | 35       |
| Front Side                | standard   | 190/836.6               | GSM       | 1:8.3      | 33.60               | 32.57                 | -0.030     | 0.371                             | 1.27           | 0.470                             | /        |
| Hotspot (Distance 10mm)   |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                 | standard   | 251/848.8               | 2Txslots  | 1:4.15     | 31.50               | 30.36                 | 0.040      | 0.685                             | 1.30           | 0.891                             | 36       |
|                           |            | 190/836.6               | 2Txslots  | 1:4.15     | 31.50               | 30.22                 | 0.050      | 0.606                             | 1.34           | 0.814                             | /        |
|                           |            | 128/824.2               | 2Txslots  | 1:4.15     | 31.50               | 30.10                 | 0.120      | 0.488                             | 1.38           | 0.674                             | /        |
| Front Side                | standard   | 190/836.6               | 2Txslots  | 1:4.15     | 31.50               | 30.22                 | -0.070     | 0.517                             | 1.34           | 0.694                             | /        |
| Left Edge                 | standard   | 190/836.6               | 2Txslots  | 1:4.15     | 31.50               | 30.22                 | -0.030     | 0.100                             | 1.34           | 0.134                             | /        |
| Right Edge                | standard   | 190/836.6               | 2Txslots  | 1:4.15     | 31.50               | 30.22                 | -0.030     | 0.342                             | 1.34           | 0.459                             | /        |
| Top Edge                  | N/A        | N/A                     | N/A       | N/A        | N/A                 | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge               | standard   | 190/836.6               | 2Txslots  | 1:4.15     | 31.50               | 30.22                 | -0.060     | 0.340                             | 1.34           | 0.457                             | /        |
| Back Side                 | SIM 2      | 251/848.8               | 2Txslots  | 1:4.15     | 31.50               | 30.36                 | 0.012      | 0.675                             | 1.30           | 0.878                             | /        |
| Back Side                 | Battery 2  | 251/848.8               | 2Txslots  | 1:4.15     | 31.50               | 30.36                 | 0.078      | 0.641                             | 1.30           | 0.833                             | /        |
| Back Side                 | Battery 3  | 251/848.8               | 2Txslots  | 1:4.15     | 31.50               | 30.36                 | 0.023      | 0.650                             | 1.30           | 0.845                             | /        |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.





Table 2: GSM 1900 (Antenna 1)

| Test Position                          | Cover Type | Channel/Frequency (MHz) | Time slot | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|----------------------------------------|------------|-------------------------|-----------|------------|---------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR (Hotspot Off)                 |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                             | standard   | 661/1880                | GSM       | 1:8.3      | 31.00               | 29.92                 | 0.038      | 0.124                             | 1.28           | 0.159                             | /        |
| Left Tilt                              | standard   | 661/1880                | GSM       | 1:8.3      | 31.00               | 29.92                 | 0.060      | 0.111                             | 1.28           | 0.142                             | /        |
| Right Cheek                            | standard   | 661/1880                | GSM       | 1:8.3      | 31.00               | 29.92                 | 0.171      | 0.141                             | 1.28           | 0.181                             | 37       |
| Right Tilt                             | standard   | 661/1880                | GSM       | 1:8.3      | 31.00               | 29.92                 | 0.095      | 0.116                             | 1.28           | 0.149                             | /        |
| Head SAR (Hotspot On)                  |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                             | standard   | 661/1880                | GSM       | 1:8.3      | 27.00               | 25.83                 | 0.000      | 0.103                             | 1.31           | 0.135                             | /        |
| Left Tilt                              | standard   | 661/1880                | GSM       | 1:8.3      | 27.00               | 25.83                 | 0.178      | 0.104                             | 1.31           | 0.136                             | /        |
| Right Cheek                            | standard   | 661/1880                | GSM       | 1:8.3      | 27.00               | 25.83                 | 0.000      | 0.114                             | 1.31           | 0.150                             | /        |
| Right Tilt                             | standard   | 661/1880                | GSM       | 1:8.3      | 27.00               | 25.83                 | -0.197     | 0.106                             | 1.31           | 0.139                             | /        |
| Head SAR (For Worse Case)              |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                            | SIM 2      | 661/1880                | GSM       | 1:8.3      | 31.00               | 29.92                 | 0.018      | 0.137                             | 1.28           | 0.176                             | /        |
| Right Cheek                            | Battery 2  | 661/1880                | GSM       | 1:8.3      | 31.00               | 29.92                 | 0.007      | 0.129                             | 1.28           | 0.165                             | /        |
| Right Cheek                            | Battery 3  | 661/1880                | GSM       | 1:8.3      | 31.00               | 29.92                 | 0.062      | 0.134                             | 1.28           | 0.172                             | /        |
| Body-worn (Hotspot Off, Distance 15mm) |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                              | standard   | 661/1880                | GSM       | 1:8.3      | 31.00               | 29.92                 | -0.031     | 0.225                             | 1.28           | 0.289                             | 38       |
| Front Side                             | standard   | 661/1880                | GSM       | 1:8.3      | 31.00               | 29.92                 | -0.026     | 0.205                             | 1.28           | 0.263                             | /        |
| Hotspot (Hotspot On, Distance 10mm)    |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                              | standard   | 661/1880                | 2Txslots  | 1:4.15     | 25.00               | 23.79                 | -0.036     | 0.168                             | 1.32           | 0.222                             | /        |
| Front Side                             | standard   | 661/1880                | 2Txslots  | 1:4.15     | 25.00               | 23.79                 | -0.090     | 0.198                             | 1.32           | 0.262                             | /        |
| Left Edge                              | standard   | 661/1880                | 2Txslots  | 1:4.15     | 25.00               | 23.79                 | 0.000      | 0.007                             | 1.32           | 0.009                             | /        |
| Right Edge                             | standard   | 661/1880                | 2Txslots  | 1:4.15     | 25.00               | 23.79                 | 0.039      | 0.031                             | 1.32           | 0.040                             | /        |
| Top Edge                               | N/A        | N/A                     | N/A       | N/A        | N/A                 | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                            | standard   | 661/1880                | 2Txslots  | 1:4.15     | 25.00               | 23.79                 | 0.010      | 0.453                             | 1.32           | 0.599                             | 39       |
| Bottom Edge                            | SIM 2      | 661/1880                | 2Txslots  | 1:4.15     | 25.00               | 23.79                 | 0.004      | 0.325                             | 1.32           | 0.429                             | /        |
| Bottom Edge                            | Battery 2  | 661/1880                | 2Txslots  | 1:4.15     | 25.00               | 23.79                 | 0.028      | 0.370                             | 1.32           | 0.489                             | /        |
| Bottom Edge                            | Battery 3  | 661/1880                | 2Txslots  | 1:4.15     | 25.00               | 23.79                 | 0.067      | 0.381                             | 1.32           | 0.503                             | /        |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.



| MAX Adjusted SAR                                                                                                                                      |            |                                |                                      |                          |                                         |                   |                                                  |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------|--------------------------------------|--------------------------|-----------------------------------------|-------------------|--------------------------------------------------|------------|
| Test Position                                                                                                                                         | Cover Type | Channel/<br>Frequency<br>(MHz) | Full power<br>Tune-up limit<br>(dBm) | Conducted<br>Power (dBm) | Reported<br>SAR <sub>1g</sub><br>(W/kg) | Scaling<br>Factor | Full power<br>Report SAR <sub>1g</sub><br>(W/kg) | 0mm<br>SAR |
| Back Side                                                                                                                                             | standard   | 661/1880                       | 29.00                                | 23.79                    | 0.222                                   | 3.32              | 0.737                                            | No         |
| Front Side                                                                                                                                            | standard   | 661/1880                       | 29.00                                | 23.79                    | 0.262                                   | 3.32              | 0.868                                            | No         |
| Left Edge                                                                                                                                             | standard   | 661/1880                       | 29.00                                | 23.79                    | 0.009                                   | 3.32              | 0.031                                            | No         |
| Right Edge                                                                                                                                            | standard   | 661/1880                       | 29.00                                | 23.79                    | 0.040                                   | 3.32              | 0.134                                            | No         |
| Top Edge                                                                                                                                              | N/A        | N/A                            | N/A                                  | N/A                      | N/A                                     | N/A               | N/A                                              | N/A        |
| Bottom Edge                                                                                                                                           | standard   | 661/1880                       | 29.00                                | 23.79                    | 0.599                                   | 3.32              | 1.987                                            | Yes        |
| Bottom Edge                                                                                                                                           | SIM 2      | 661/1880                       | 29.00                                | 23.79                    | 0.429                                   | 3.32              | 1.425                                            | Yes        |
| Bottom Edge                                                                                                                                           | Battery 2  | 661/1880                       | 29.00                                | 23.79                    | 0.489                                   | 3.32              | 1.623                                            | Yes        |
| Bottom Edge                                                                                                                                           | Battery 3  | 661/1880                       | 29.00                                | 23.79                    | 0.503                                   | 3.32              | 1.671                                            | Yes        |
| Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required. |            |                                |                                      |                          |                                         |                   |                                                  |            |

| Test Position                                                                 | Cover Type | Channel/<br>Frequency<br>(MHz) | Time slot | Duty Cycle | Tune-up limit<br>(dBm) | Conducted Power<br>(dBm) | Drift<br>(dB) | Measured SAR <sub>10g</sub><br>(W/kg) | Scaling Factor | Reported SAR <sub>10g</sub><br>(W/kg) | Plot No. |
|-------------------------------------------------------------------------------|------------|--------------------------------|-----------|------------|------------------------|--------------------------|---------------|---------------------------------------|----------------|---------------------------------------|----------|
| Product Specific 10-g SAR (Hotspot Off, Distance 0mm)                         |            |                                |           |            |                        |                          |               |                                       |                |                                       |          |
| Bottom Edge                                                                   | standard   | 661/1880                       | 2Txslots  | 1:4.15     | 29.00                  | 27.77                    | 0.037         | 1.150                                 | 1.33           | 1.527                                 | 40       |
| Bottom Edge                                                                   | SIM 2      | 661/1880                       | 2Txslots  | 1:4.15     | 29.00                  | 27.77                    | 0.014         | 0.980                                 | 1.33           | 1.301                                 | /        |
| Bottom Edge                                                                   | Battery 2  | 661/1880                       | 2Txslots  | 1:4.15     | 29.00                  | 27.77                    | 0.060         | 1.074                                 | 1.33           | 1.426                                 | /        |
| Bottom Edge                                                                   | Battery 3  | 661/1880                       | 2Txslots  | 1:4.15     | 29.00                  | 27.77                    | 0.009         | 1.037                                 | 1.33           | 1.377                                 | /        |
| Note: 1.The value with blue color is the maximum SAR Value of each test band. |            |                                |           |            |                        |                          |               |                                       |                |                                       |          |



Table 3: UMTS Band II (Antenna 1)

| Test Position                          | Cover Type | Channel/Frequency (MHz) | Channel Type | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|----------------------------------------|------------|-------------------------|--------------|------------|---------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR (Hotspot Off)                 |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                             | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 24.50               | 23.74                 | 0.090      | 0.160                             | 1.19           | 0.190                             | /        |
| Left Tilt                              | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 24.50               | 23.74                 | 0.031      | 0.117                             | 1.19           | 0.139                             | /        |
| Right Cheek                            | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 24.50               | 23.74                 | -0.021     | 0.193                             | 1.19           | 0.230                             | 41       |
| Right Tilt                             | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 24.50               | 23.74                 | 0.057      | 0.134                             | 1.19           | 0.160                             | /        |
| Head SAR (Hotspot On)                  |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                             | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 19.00               | 18.13                 | -0.134     | 0.118                             | 1.22           | 0.144                             | /        |
| Left Tilt                              | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 19.00               | 18.13                 | 0.136      | 0.103                             | 1.22           | 0.126                             | /        |
| Right Cheek                            | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 19.00               | 18.13                 | 0.042      | 0.134                             | 1.22           | 0.164                             | /        |
| Right Tilt                             | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 19.00               | 18.13                 | 0.040      | 0.110                             | 1.22           | 0.134                             | /        |
| Head SAR (For Worse Case)              |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                            | SIM 2      | 9400/1880               | RMC 12.2K    | 1:1        | 24.50               | 23.74                 | 0.009      | 0.188                             | 1.19           | 0.224                             | /        |
| Right Cheek                            | Battery 2  | 9400/1880               | RMC 12.2K    | 1:1        | 24.50               | 23.74                 | 0.044      | 0.185                             | 1.19           | 0.220                             | /        |
| Right Cheek                            | Battery 3  | 9400/1880               | RMC 12.2K    | 1:1        | 24.50               | 23.74                 | 0.083      | 0.179                             | 1.19           | 0.213                             | /        |
| Body-worn (Hotspot Off, Distance 15mm) |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                              | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 24.50               | 23.74                 | 0.000      | 0.328                             | 1.19           | 0.391                             | /        |
| Front Side                             | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 24.50               | 23.74                 | -0.074     | 0.422                             | 1.19           | 0.503                             | 42       |
| Hotspot (Hotspot On, Distance 10mm)    |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                              | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 19.00               | 18.13                 | -0.090     | 0.246                             | 1.22           | 0.301                             | /        |
| Front Side                             | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 19.00               | 18.13                 | -0.170     | 0.310                             | 1.22           | 0.379                             | /        |
| Left Edge                              | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 19.00               | 18.13                 | -0.173     | 0.018                             | 1.22           | 0.022                             | /        |
| Right Edge                             | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 19.00               | 18.13                 | -0.180     | 0.047                             | 1.22           | 0.057                             | /        |
| Top Edge                               | N/A        | N/A                     | N/A          | N/A        | N/A                 | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                            | standard   | 9538/1907.6             | RMC 12.2K    | 1:1        | 19.00               | 18.07                 | 0.090      | 0.687                             | 1.24           | 0.851                             | /        |
|                                        |            | 9400/1880               | RMC 12.2K    | 1:1        | 19.00               | 18.13                 | 0.100      | 0.776                             | 1.22           | 0.948                             | /        |
|                                        |            | 9262/1852.4             | RMC 12.2K    | 1:1        | 19.00               | 18.05                 | 0.070      | 0.875                             | 1.24           | 1.089                             | 43       |
| Bottom Edge                            | SIM 2      | 9262/1852.4             | RMC 12.2K    | 1:1        | 19.00               | 18.05                 | 0.130      | 0.847                             | 1.24           | 1.054                             | /        |
| Bottom Edge                            | Battery 2  | 9262/1852.4             | RMC 12.2K    | 1:1        | 19.00               | 18.05                 | 0.130      | 0.805                             | 1.24           | 1.002                             | /        |
| Bottom Edge                            | Battery 3  | 9262/1852.4             | RMC 12.2K    | 1:1        | 19.00               | 18.05                 | -0.090     | 0.811                             | 1.24           | 1.009                             | /        |
| Bottom Edge                            | Repeated   | 9262/1852.4             | RMC 12.2K    | 1:1        | 19.00               | 18.05                 | 0.015      | 0.860                             | 1.24           | 1.070                             | /        |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.



| MAX Adjusted SAR                                                                                                                                      |            |                                |                                      |                          |                                         |                   |                                                  |            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------|--------------------------------------|--------------------------|-----------------------------------------|-------------------|--------------------------------------------------|------------|
| Test Position                                                                                                                                         | Cover Type | Channel/<br>Frequency<br>(MHz) | Full power<br>Tune-up limit<br>(dBm) | Conducted<br>Power (dBm) | Reported<br>SAR <sub>1g</sub><br>(W/kg) | Scaling<br>Factor | Full power<br>Report SAR <sub>1g</sub><br>(W/kg) | 0mm<br>SAR |
| Back Side                                                                                                                                             | standard   | 9400/1880                      | 24.50                                | 18.13                    | 0.301                                   | 3.55              | 1.066                                            | No         |
| Front Side                                                                                                                                            | standard   | 9400/1880                      | 24.50                                | 18.13                    | 0.379                                   | 3.55              | 1.344                                            | Yes        |
| Left Edge                                                                                                                                             | standard   | 9400/1880                      | 24.50                                | 18.13                    | 0.022                                   | 3.55              | 0.078                                            | No         |
| Right Edge                                                                                                                                            | standard   | 9400/1880                      | 24.50                                | 18.13                    | 0.057                                   | 3.55              | 0.202                                            | No         |
| Top Edge                                                                                                                                              | N/A        | N/A                            | N/A                                  | N/A                      | N/A                                     | N/A               | N/A                                              | N/A        |
| Bottom Edge                                                                                                                                           | standard   | 9538/1907.6                    | 24.50                                | 18.07                    | 0.851                                   | 3.55              | 3.020                                            | Yes        |
|                                                                                                                                                       |            | 9400/1880                      | 24.50                                | 18.13                    | 0.948                                   | 3.55              | 3.364                                            | Yes        |
|                                                                                                                                                       |            | 9262/1852.4                    | 24.50                                | 18.05                    | 1.089                                   | 3.55              | 3.864                                            | Yes        |
| Bottom Edge                                                                                                                                           | SIM 2      | 9262/1852.4                    | 24.50                                | 18.05                    | 1.054                                   | 3.55              | 3.740                                            | Yes        |
| Bottom Edge                                                                                                                                           | Battery 2  | 9262/1852.4                    | 24.50                                | 18.05                    | 1.002                                   | 3.55              | 3.555                                            | Yes        |
| Bottom Edge                                                                                                                                           | Battery 3  | 9262/1852.4                    | 24.50                                | 18.05                    | 1.009                                   | 3.55              | 3.581                                            | Yes        |
| Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required. |            |                                |                                      |                          |                                         |                   |                                                  |            |

| Test Position                                                                                                                                           | Cover Type | Channel/<br>Frequency<br>(MHz) | Channel Type | Duty Cycle | Tune-up<br>limit<br>(dBm) | Conducted<br>Power<br>(dBm) | Drift<br>(dB) | Measured<br>SAR <sub>10g</sub><br>(W/kg) | Scaling<br>Factor | Reported<br>SAR <sub>10g</sub><br>(W/kg) | Plot<br>No. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------|--------------|------------|---------------------------|-----------------------------|---------------|------------------------------------------|-------------------|------------------------------------------|-------------|
| Product Specific 10-g SAR (Hotspot Off+Sensor On, Distance 0mm)                                                                                         |            |                                |              |            |                           |                             |               |                                          |                   |                                          |             |
| Front Side                                                                                                                                              | standard   | 9400/1880                      | RMC 12.2K    | 1:1        | 23.50                     | 22.84                       | 0.009         | 1.590                                    | 1.16              | 1.851                                    | /           |
| Bottom Edge                                                                                                                                             | standard   | 9538/1907.6                    | RMC 12.2K    | 1:1        | 23.50                     | 22.81                       | 0.101         | 1.674                                    | 1.17              | 1.962                                    | /           |
|                                                                                                                                                         |            | 9400/1880                      | RMC 12.2K    | 1:1        | 23.50                     | 22.84                       | 0.027         | 1.800                                    | 1.16              | 2.095                                    | /           |
|                                                                                                                                                         |            | 9262/1852.4                    | RMC 12.2K    | 1:1        | 23.50                     | 22.66                       | 0.030         | 1.912                                    | 1.21              | 2.320                                    | /           |
| Product Specific 10-g SAR (Hotspot Off+Sensor Off, Distance 6mm)                                                                                        |            |                                |              |            |                           |                             |               |                                          |                   |                                          |             |
| Front Side                                                                                                                                              | standard   | 9400/1880                      | RMC 12.2K    | 1:1        | 24.50                     | 23.74                       | 0.010         | 1.260                                    | 1.19              | 1.501                                    | /           |
| Bottom Edge                                                                                                                                             | standard   | 9538/1907.6                    | RMC 12.2K    | 1:1        | 24.50                     | 23.68                       | 0.009         | 1.982                                    | 1.21              | 2.394                                    | /           |
|                                                                                                                                                         |            | 9400/1880                      | RMC 12.2K    | 1:1        | 24.50                     | 23.74                       | 0.170         | 2.130                                    | 1.19              | 2.537                                    | 44          |
|                                                                                                                                                         |            | 9262/1852.4                    | RMC 12.2K    | 1:1        | 24.50                     | 23.78                       | 0.030         | 2.059                                    | 1.18              | 2.430                                    | /           |
| Bottom Edge                                                                                                                                             | SIM 2      | 9400/1880                      | RMC 12.2K    | 1:1        | 24.50                     | 23.74                       | 0.004         | 1.970                                    | 1.19              | 2.347                                    | /           |
| Bottom Edge                                                                                                                                             | Battery 2  | 9400/1880                      | RMC 12.2K    | 1:1        | 24.50                     | 23.74                       | 0.057         | 2.100                                    | 1.19              | 2.502                                    | /           |
| Bottom Edge                                                                                                                                             | Battery 3  | 9400/1880                      | RMC 12.2K    | 1:1        | 24.50                     | 23.74                       | 0.006         | 2.006                                    | 1.19              | 2.390                                    | /           |
| Bottom Edge                                                                                                                                             | Repeated   | 9400/1880                      | RMC 12.2K    | 1:1        | 24.50                     | 23.74                       | 0.031         | 2.070                                    | 1.19              | 2.466                                    | /           |
| Note: 1.The value with blue color is the maximum SAR Value of each test band.                                                                           |            |                                |              |            |                           |                             |               |                                          |                   |                                          |             |
| 2. According to Clause 5.3.10 in this report, 6mm is used as the more conservative test separation distance for additional SAR testing with sensor off. |            |                                |              |            |                           |                             |               |                                          |                   |                                          |             |



| Measurement Variability                                                                                                                                        |                            |                                              |                                                          |       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------------------------|----------------------------------------------------------|-------|
| Test Position                                                                                                                                                  | Channel/<br>Frequency(MHz) | MAX Measured SAR <sub>1g/10g</sub><br>(W/kg) | 1 <sup>st</sup> Repeated SAR <sub>1g/10g</sub><br>(W/kg) | Ratio |
| Bottom Edge                                                                                                                                                    | 9262/1852.4                | 0.875                                        | 0.860                                                    | 1.02  |
| Bottom Edge                                                                                                                                                    | 9400/1880                  | 2.130                                        | 2.070                                                    | 1.03  |
| Note: 1) When the original highest measured SAR <sub>1g</sub> is $\geq 0.80$ W/kg or SAR <sub>10g</sub> is $\geq 2.0$ W/kg, the measurement was repeated once. |                            |                                              |                                                          |       |
| 2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was $> 1.20$ .    |                            |                                              |                                                          |       |



Table 4: UMTS Band IV (Antenna 1)

| Test Position                                         | Cover Type | Channel/Frequency (MHz) | Channel Type | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|-------------------------------------------------------|------------|-------------------------|--------------|------------|---------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (REC On+Hotspot Off)</b>                  |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                            | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | 0.053      | 0.269                             | 1.21           | 0.324                             | /        |
| Left Tilt                                             | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | 0.024      | 0.058                             | 1.21           | 0.070                             | /        |
| Right Cheek                                           | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | 0.100      | 0.157                             | 1.21           | 0.189                             | /        |
| Right Tilt                                            | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | 0.040      | 0.094                             | 1.21           | 0.113                             | /        |
| <b>Head SAR (Hotspot On)</b>                          |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                            | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 18.50               | 17.57                 | 0.035      | 0.064                             | 1.24           | 0.080                             | /        |
| Left Tilt                                             | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 18.50               | 17.57                 | 0.077      | 0.014                             | 1.24           | 0.017                             | /        |
| Right Cheek                                           | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 18.50               | 17.57                 | 0.020      | 0.035                             | 1.24           | 0.044                             | /        |
| Right Tilt                                            | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 18.50               | 17.57                 | 0.012      | 0.020                             | 1.24           | 0.024                             | /        |
| <b>Head SAR (For Worse Case)</b>                      |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                            | SIM 2      | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | 0.043      | 0.237                             | 1.21           | 0.286                             | /        |
| Left Cheek                                            | Battery 2  | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | 0.042      | 0.257                             | 1.21           | 0.310                             | /        |
| Left Cheek                                            | Battery 3  | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | 0.039      | 0.291                             | 1.21           | 0.351                             | 45       |
| <b>Body-worn (REC Off+Hotspot Off, Distance 15mm)</b> |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                             | standard   | 1513/1752.6             | RMC 12.2K    | 1:1        | 24.50               | 32.62                 | 0.140      | 0.684                             | 1.20           | 0.819                             | /        |
|                                                       |            | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | 0.090      | 0.718                             | 1.21           | 0.865                             | /        |
|                                                       |            | 1312/1712.4             | RMC 12.2K    | 1:1        | 24.50               | 32.58                 | 0.090      | 0.692                             | 1.21           | 0.836                             | /        |
| Front Side                                            | standard   | 1513/1752.6             | RMC 12.2K    | 1:1        | 24.50               | 32.62                 | 0.120      | 0.667                             | 1.20           | 0.798                             | /        |
|                                                       |            | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | 0.120      | 0.726                             | 1.21           | 0.875                             | 46       |
|                                                       |            | 1312/1712.4             | RMC 12.2K    | 1:1        | 24.50               | 32.58                 | 0.090      | 0.710                             | 1.21           | 0.858                             | /        |
| Front Side                                            | SIM 2      | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | 0.026      | 0.706                             | 1.21           | 0.851                             | /        |
| Front Side                                            | Battery 2  | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | 0.080      | 0.709                             | 1.21           | 0.854                             | /        |
| Front Side                                            | Battery 3  | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | -0.090     | 0.719                             | 1.21           | 0.866                             | /        |
| Front Side                                            | Repeated   | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 23.59                 | 0.013      | 0.714                             | 1.21           | 0.860                             | /        |
| <b>Hotspot (Hotspot On, Distance 10mm)</b>            |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                             | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 18.50               | 17.57                 | 0.037      | 0.395                             | 1.24           | 0.489                             | /        |
| Front Side                                            | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 18.50               | 17.57                 | 0.038      | 0.398                             | 1.24           | 0.493                             | /        |
| Left Edge                                             | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 18.50               | 17.57                 | 0.044      | 0.029                             | 1.24           | 0.036                             | /        |
| Right Edge                                            | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 18.50               | 17.57                 | 0.060      | 0.078                             | 1.24           | 0.096                             | /        |
| Top Edge                                              | N/A        | N/A                     | N/A          | N/A        | N/A                 | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                           | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 18.50               | 17.57                 | 0.090      | 0.625                             | 1.24           | 0.774                             | 47       |

Note: 1.The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.



| MAX Adjusted SAR |            |                                |                                      |                          |                                         |                   |                                                  |            |
|------------------|------------|--------------------------------|--------------------------------------|--------------------------|-----------------------------------------|-------------------|--------------------------------------------------|------------|
| Test Position    | Cover Type | Channel/<br>Frequency<br>(MHz) | Full power<br>Tune-up limit<br>(dBm) | Conducted<br>Power (dBm) | Reported<br>SAR <sub>1g</sub><br>(W/kg) | Scaling<br>Factor | Full power<br>Report SAR <sub>1g</sub><br>(W/kg) | 0mm<br>SAR |
| Back Side        | standard   | 1413/1732.6                    | 24.50                                | 17.57                    | 0.489                                   | 3.98              | 1.948                                            | Yes        |
| Front Side       | standard   | 1413/1732.6                    | 24.50                                | 17.57                    | 0.493                                   | 3.98              | 1.963                                            | Yes        |
| Left Edge        | standard   | 1413/1732.6                    | 24.50                                | 17.57                    | 0.036                                   | 3.98              | 0.143                                            | No         |
| Right Edge       | standard   | 1413/1732.6                    | 24.50                                | 17.57                    | 0.096                                   | 3.98              | 0.383                                            | No         |
| Top Edge         | N/A        | N/A                            | N/A                                  | N/A                      | N/A                                     | N/A               | N/A                                              | N/A        |
| Bottom Edge      | standard   | 1413/1732.6                    | 24.50                                | 17.57                    | 0.774                                   | 3.98              | 3.082                                            | Yes        |

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR > 1.2 W/kg, Product Specific 10-g SAR is required.

| Test Position                                                                                                                                           | Cover Type | Channel/<br>Frequency<br>(MHz) | Channel Type | Duty Cycle | Tune-up limit<br>(dBm) | Conducted Power<br>(dBm) | Drift (dB) | Measured SAR <sub>10g</sub><br>(W/kg) | Scaling Factor | Reported SAR <sub>10g</sub><br>(W/kg) | Plot No. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------------------|--------------|------------|------------------------|--------------------------|------------|---------------------------------------|----------------|---------------------------------------|----------|
| Product Specific 10-g SAR (Hotspot Off+Sensor On, Distance 0mm)                                                                                         |            |                                |              |            |                        |                          |            |                                       |                |                                       |          |
| Back Side                                                                                                                                               | standard   | 1413/1732.6                    | RMC 12.2K    | 1:1        | 22.00                  | 21.06                    | 0.044      | 1.600                                 | 1.24           | 1.987                                 | /        |
| Front Side                                                                                                                                              | standard   | 1413/1732.6                    | RMC 12.2K    | 1:1        | 22.00                  | 21.06                    | 0.048      | 1.340                                 | 1.24           | 1.664                                 | /        |
| Bottom Edge                                                                                                                                             | standard   | 1513/1752.6                    | RMC 12.2K    | 1:1        | 22.00                  | 21.04                    | 0.006      | 1.908                                 | 1.25           | 2.380                                 | /        |
|                                                                                                                                                         |            | 1413/1732.6                    | RMC 12.2K    | 1:1        | 22.00                  | 21.06                    | 0.039      | 2.070                                 | 1.24           | 2.570                                 | /        |
|                                                                                                                                                         |            | 1312/1712.4                    | RMC 12.2K    | 1:1        | 22.00                  | 21.08                    | 0.071      | 2.015                                 | 1.24           | 2.490                                 | /        |
| Product Specific 10-g SAR (Hotspot Off+Sensor Off, Distance 6mm)                                                                                        |            |                                |              |            |                        |                          |            |                                       |                |                                       |          |
| Back Side                                                                                                                                               | standard   | 1413/1732.6                    | RMC 12.2K    | 1:1        | 24.50                  | 23.59                    | 0.040      | 1.620                                 | 1.21           | 1.952                                 | /        |
| Front Side                                                                                                                                              | standard   | 1413/1732.6                    | RMC 12.2K    | 1:1        | 24.50                  | 23.59                    | 0.026      | 1.577                                 | 1.21           | 1.900                                 | /        |
| Bottom Edge                                                                                                                                             | standard   | 1513/1752.6                    | RMC 12.2K    | 1:1        | 24.50                  | 23.62                    | 0.017      | 2.006                                 | 1.20           | 2.401                                 | /        |
|                                                                                                                                                         |            | 1413/1732.6                    | RMC 12.2K    | 1:1        | 24.50                  | 23.59                    | -0.021     | 2.240                                 | 1.21           | 2.699                                 | 48       |
|                                                                                                                                                         |            | 1312/1712.4                    | RMC 12.2K    | 1:1        | 24.50                  | 23.58                    | 0.003      | 2.105                                 | 1.21           | 2.542                                 | /        |
| Bottom Edge                                                                                                                                             | SIM 2      | 1413/1732.6                    | RMC 12.2K    | 1:1        | 24.50                  | 23.59                    | 0.104      | 1.954                                 | 1.21           | 2.355                                 | /        |
| Bottom Edge                                                                                                                                             | Battery 2  | 1413/1732.6                    | RMC 12.2K    | 1:1        | 24.50                  | 23.59                    | 0.080      | 2.100                                 | 1.21           | 2.531                                 | /        |
| Bottom Edge                                                                                                                                             | Battery 3  | 1413/1732.6                    | RMC 12.2K    | 1:1        | 24.50                  | 23.59                    | 0.010      | 2.043                                 | 1.21           | 2.462                                 | /        |
| Bottom Edge                                                                                                                                             | Repeated   | 1413/1732.6                    | RMC 12.2K    | 1:1        | 24.50                  | 23.69                    | -0.054     | 2.109                                 | 1.21           | 2.541                                 | /        |
| Note: 1.The value with blue color is the maximum SAR Value of each test band.                                                                           |            |                                |              |            |                        |                          |            |                                       |                |                                       |          |
| 2. According to Clause 5.3.10 in this report, 6mm is used as the more conservative test separation distance for additional SAR testing with sensor off. |            |                                |              |            |                        |                          |            |                                       |                |                                       |          |

| Measurement Variability |                         |                                           |                                                       |       |
|-------------------------|-------------------------|-------------------------------------------|-------------------------------------------------------|-------|
| Test Position           | Channel/ Frequency(MHz) | MAX Measured SAR <sub>1g/10g</sub> (W/kg) | 1 <sup>st</sup> Repeated SAR <sub>1g/10g</sub> (W/kg) | Ratio |
| Front Side              | 1413/1732.6             | 0.826                                     | 0.814                                                 | 1.01  |
| Bottom Edge             | 1413/1732.6             | 2.240                                     | 2.109                                                 | 1.06  |

Note: 1) When the original highest measured SAR<sub>1g</sub> is ≥ 0.80 W/kg or SAR<sub>10g</sub> is ≥ 2.0 W/kg, the measurement was repeated once.  
2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was > 1.20.





Table 5: UMTS Band V (Antenna 1)

| Test Position             | Cover Type | Channel/Frequency (MHz) | Channel Type | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|---------------------------|------------|-------------------------|--------------|------------|---------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR                  |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | -0.059     | 0.177                             | 1.33           | 0.236                             | /        |
| Left Tilt                 | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | -0.020     | 0.116                             | 1.33           | 0.155                             | /        |
| Right Cheek               | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | 0.050      | 0.250                             | 1.33           | 0.333                             | 49       |
| Right Tilt                | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | -0.060     | 0.105                             | 1.33           | 0.140                             | /        |
| Right Cheek               | SIM 2      | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | 0.110      | 0.230                             | 1.33           | 0.307                             | /        |
| Right Cheek               | Battery 2  | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | -0.070     | 0.224                             | 1.33           | 0.299                             | /        |
| Right Cheek               | Battery 3  | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | 0.010      | 0.235                             | 1.33           | 0.313                             | /        |
| Body-worn (Distance 15mm) |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                 | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | -0.010     | 0.270                             | 1.33           | 0.360                             | /        |
| Front Side                | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | -0.090     | 0.278                             | 1.33           | 0.371                             | 50       |
| Hotspot (Distance 10mm)   |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                 | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | -0.020     | 0.399                             | 1.33           | 0.532                             | 51       |
| Front Side                | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | -0.050     | 0.388                             | 1.33           | 0.517                             | /        |
| Left Edge                 | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | -0.025     | 0.080                             | 1.33           | 0.107                             | /        |
| Right Edge                | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | 0.000      | 0.211                             | 1.33           | 0.281                             | /        |
| Top Edge                  | N/A        | N/A                     | N/A          | N/A        | N/A                 | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge               | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | 0.010      | 0.306                             | 1.33           | 0.408                             | /        |
| Back Side                 | SIM 2      | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | 0.040      | 0.375                             | 1.33           | 0.500                             | /        |
| Back Side                 | Battery 2  | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | 0.009      | 0.380                             | 1.33           | 0.507                             | /        |
| Back Side                 | Battery 3  | 4183/836.6              | RMC 12.2K    | 1:1        | 24.50               | 23.25                 | 0.037      | 0.384                             | 1.33           | 0.512                             | /        |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.





Table 6: LTE Band 2 (20MHz, Antenna 1)

| Test Position                                       | Cover Type | RB size | RB offset | Channel/<br>Frequency (MHz) | Maximum<br>Allowed<br>Power(dBm) | Conducted<br>Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|-----------------------------------------------------|------------|---------|-----------|-----------------------------|----------------------------------|--------------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Hotspot Off, QPSK)</b>                 |            |         |           |                             |                                  |                          |            |                                   |                |                                   |          |
| Left Cheek                                          | standard   | 1RB     | 50        | 18900/1880                  | 24.00                            | 23.78                    | 0.132      | 0.162                             | 1.05           | 0.170                             | /        |
| Left Tilt                                           | standard   | 1RB     | 50        | 18900/1880                  | 24.00                            | 23.78                    | 0.071      | 0.116                             | 1.05           | 0.122                             | /        |
| Right Cheek                                         | standard   | 1RB     | 50        | 18900/1880                  | 24.00                            | 23.78                    | -0.130     | 0.196                             | 1.05           | 0.207                             | /        |
| Right Tilt                                          | standard   | 1RB     | 50        | 18900/1880                  | 24.00                            | 23.78                    | 0.071      | 0.137                             | 1.05           | 0.144                             | /        |
| Left Cheek                                          | standard   | 50%RB   | 0         | 18900/1880                  | 23.00                            | 22.87                    | 0.020      | 0.151                             | 1.03           | 0.155                             | /        |
| Left Tilt                                           | standard   | 50%RB   | 0         | 18900/1880                  | 23.00                            | 22.87                    | 0.090      | 0.112                             | 1.03           | 0.116                             | /        |
| Right Cheek                                         | standard   | 50%RB   | 0         | 18900/1880                  | 23.00                            | 22.87                    | 0.149      | 0.180                             | 1.03           | 0.185                             | /        |
| Right Tilt                                          | standard   | 50%RB   | 0         | 18900/1880                  | 23.00                            | 22.87                    | 0.055      | 0.126                             | 1.03           | 0.130                             | /        |
| <b>Head SAR (Hotspot On, QPSK)</b>                  |            |         |           |                             |                                  |                          |            |                                   |                |                                   |          |
| Left Cheek                                          | standard   | 1RB     | 50        | 18900/1880                  | 19.00                            | 18.79                    | 0.075      | 0.107                             | 1.05           | 0.112                             | /        |
| Left Tilt                                           | standard   | 1RB     | 50        | 18900/1880                  | 19.00                            | 18.79                    | 0.031      | 0.105                             | 1.05           | 0.110                             | /        |
| Right Cheek                                         | standard   | 1RB     | 50        | 18900/1880                  | 19.00                            | 18.79                    | 0.057      | 0.122                             | 1.05           | 0.128                             | /        |
| Right Tilt                                          | standard   | 1RB     | 50        | 18900/1880                  | 19.00                            | 18.79                    | 0.135      | 0.106                             | 1.05           | 0.111                             | /        |
| Left Cheek                                          | standard   | 50%RB   | 0         | 18900/1880                  | 19.00                            | 18.72                    | 0.023      | 0.115                             | 1.07           | 0.123                             | /        |
| Left Tilt                                           | standard   | 50%RB   | 0         | 18900/1880                  | 19.00                            | 18.72                    | 0.187      | 0.104                             | 1.07           | 0.111                             | /        |
| Right Cheek                                         | standard   | 50%RB   | 0         | 18900/1880                  | 19.00                            | 18.72                    | 0.052      | 0.130                             | 1.07           | 0.138                             | /        |
| Right Tilt                                          | standard   | 50%RB   | 0         | 18900/1880                  | 19.00                            | 18.72                    | 0.112      | 0.109                             | 1.07           | 0.116                             | /        |
| <b>Head SAR (For Worse Case)</b>                    |            |         |           |                             |                                  |                          |            |                                   |                |                                   |          |
| Right Cheek                                         | SIM 2      | 1RB     | 50        | 18900/1880                  | 24.00                            | 23.78                    | 0.041      | 0.202                             | 1.05           | 0.212                             | /        |
| Right Cheek                                         | Battery 2  | 1RB     | 50        | 18900/1880                  | 24.00                            | 23.78                    | 0.000      | 0.217                             | 1.05           | 0.228                             | 52       |
| Right Cheek                                         | Battery 3  | 1RB     | 50        | 18900/1880                  | 24.00                            | 23.78                    | 0.094      | 0.201                             | 1.05           | 0.211                             | /        |
| <b>Body-worn (Hotspot Off, QPSK, Distance 15mm)</b> |            |         |           |                             |                                  |                          |            |                                   |                |                                   |          |
| Back Side                                           | standard   | 1RB     | 50        | 18900/1880                  | 24.00                            | 23.78                    | -0.010     | 0.473                             | 1.05           | 0.498                             | /        |
| Front Side                                          | standard   | 1RB     | 50        | 18900/1880                  | 24.00                            | 23.78                    | -0.090     | 0.513                             | 1.05           | 0.540                             | 53       |
| Back Side                                           | standard   | 50%RB   | 0         | 18900/1880                  | 23.00                            | 22.87                    | 0.100      | 0.420                             | 1.03           | 0.433                             | /        |
| Front Side                                          | standard   | 50%RB   | 0         | 18900/1880                  | 23.00                            | 22.87                    | 0.090      | 0.396                             | 1.03           | 0.408                             | /        |
| <b>Hotspot (Hotspot On, QPSK, Distance 10mm)</b>    |            |         |           |                             |                                  |                          |            |                                   |                |                                   |          |
| Back Side                                           | standard   | 1RB     | 50        | 18900/1880                  | 19.00                            | 18.79                    | 0.120      | 0.171                             | 1.05           | 0.179                             | /        |
| Front Side                                          | standard   | 1RB     | 50        | 18900/1880                  | 19.00                            | 18.79                    | 0.030      | 0.178                             | 1.05           | 0.187                             | /        |
| Left Edge                                           | standard   | 1RB     | 50        | 18900/1880                  | 19.00                            | 18.79                    | -0.040     | 0.009                             | 1.05           | 0.009                             | /        |
| Right Edge                                          | standard   | 1RB     | 50        | 18900/1880                  | 19.00                            | 18.79                    | -0.127     | 0.032                             | 1.05           | 0.034                             | /        |
| Top Edge                                            | N/A        | N/A     | N/A       | N/A                         | N/A                              | N/A                      | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                         | standard   | 1RB     | 50        | 18900/1880                  | 19.00                            | 18.79                    | 0.050      | 0.384                             | 1.05           | 0.403                             | /        |
| Back Side                                           | standard   | 50%RB   | 0         | 18900/1880                  | 19.00                            | 18.72                    | -0.060     | 0.269                             | 1.07           | 0.287                             | /        |
| Front Side                                          | standard   | 50%RB   | 0         | 18900/1880                  | 19.00                            | 18.72                    | 0.090      | 0.274                             | 1.07           | 0.292                             | /        |
| Left Edge                                           | standard   | 50%RB   | 0         | 18900/1880                  | 19.00                            | 18.72                    | -0.046     | 0.015                             | 1.07           | 0.015                             | /        |
| Right Edge                                          | standard   | 50%RB   | 0         | 18900/1880                  | 19.00                            | 18.72                    | -0.051     | 0.050                             | 1.07           | 0.053                             | /        |
| Top Edge                                            | N/A        | N/A     | N/A       | N/A                         | N/A                              | N/A                      | N/A        | N/A                               | N/A            | N/A                               | N/A      |



|             |           |       |   |            |       |       |       |       |      |       |    |
|-------------|-----------|-------|---|------------|-------|-------|-------|-------|------|-------|----|
| Bottom Edge | standard  | 50%RB | 0 | 18900/1880 | 19.00 | 18.72 | 0.070 | 0.639 | 1.07 | 0.682 | 54 |
| Bottom Edge | SIM 2     | 50%RB | 0 | 18900/1880 | 19.00 | 18.72 | 0.050 | 0.544 | 1.07 | 0.580 | /  |
| Bottom Edge | Battery 2 | 50%RB | 0 | 18900/1880 | 19.00 | 18.72 | 0.006 | 0.570 | 1.07 | 0.608 | /  |
| Bottom Edge | Battery 3 | 50%RB | 0 | 18900/1880 | 19.00 | 18.72 | 0.034 | 0.582 | 1.07 | 0.621 | /  |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

| MAX Adjusted SAR |            |         |           |                                |                                      |                             |                                         |                   |                                                  |            |
|------------------|------------|---------|-----------|--------------------------------|--------------------------------------|-----------------------------|-----------------------------------------|-------------------|--------------------------------------------------|------------|
| Test Position    | Cover Type | RB size | RB offset | Channel/<br>Frequency<br>(MHz) | Full power<br>Tune-up<br>limit (dBm) | Conducted<br>Power<br>(dBm) | Reported<br>SAR <sub>1g</sub><br>(W/kg) | Scaling<br>Factor | Full power<br>Report SAR <sub>1g</sub><br>(W/kg) | 0mm<br>SAR |
| Back Side        | standard   | 1RB     | 50        | 18900/1880                     | 24.00                                | 18.79                       | 0.179                                   | 3.16              | 0.568                                            | No         |
| Front Side       | standard   | 1RB     | 50        | 18900/1880                     | 24.00                                | 18.79                       | 0.187                                   | 3.16              | 0.591                                            | No         |
| Left Edge        | standard   | 1RB     | 50        | 18900/1880                     | 24.00                                | 18.79                       | 0.009                                   | 3.16              | 0.030                                            | No         |
| Right Edge       | standard   | 1RB     | 50        | 18900/1880                     | 24.00                                | 18.79                       | 0.034                                   | 3.16              | 0.107                                            | No         |
| Top Edge         | N/A        | N/A     | N/A       | N/A                            | N/A                                  | N/A                         | N/A                                     | N/A               | N/A                                              | N/A        |
| Bottom Edge      | standard   | 1RB     | 50        | 18900/1880                     | 24.00                                | 18.79                       | 0.403                                   | 3.16              | 1.274                                            | Yes        |
| Back Side        | standard   | 50%RB   | 0         | 18900/1880                     | 23.00                                | 18.72                       | 0.287                                   | 2.51              | 0.721                                            | No         |
| Front Side       | standard   | 50%RB   | 0         | 18900/1880                     | 23.00                                | 18.72                       | 0.292                                   | 2.51              | 0.734                                            | No         |
| Left Edge        | standard   | 50%RB   | 0         | 18900/1880                     | 23.00                                | 18.72                       | 0.015                                   | 2.51              | 0.039                                            | No         |
| Right Edge       | standard   | 50%RB   | 0         | 18900/1880                     | 23.00                                | 18.72                       | 0.053                                   | 2.51              | 0.134                                            | No         |
| Top Edge         | N/A        | N/A     | N/A       | N/A                            | N/A                                  | N/A                         | N/A                                     | N/A               | N/A                                              | N/A        |
| Bottom Edge      | standard   | 50%RB   | 0         | 18900/1880                     | 23.00                                | 18.72                       | 0.682                                   | 2.51              | 1.712                                            | Yes        |
| Bottom Edge      | SIM 2      | 50%RB   | 0         | 18900/1880                     | 23.00                                | 18.72                       | 0.580                                   | 2.51              | 1.457                                            | Yes        |
| Bottom Edge      | Battery 2  | 50%RB   | 0         | 18900/1880                     | 23.00                                | 18.72                       | 0.608                                   | 2.51              | 1.527                                            | Yes        |
| Bottom Edge      | Battery 3  | 50%RB   | 0         | 18900/1880                     | 23.00                                | 18.72                       | 0.621                                   | 2.51              | 1.559                                            | Yes        |

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $> 1.2$  W/kg, Product Specific 10-g SAR is required.



| Test Position                                                                                                                                                                                                                             | Cover Type | RB size | RB offset | Channel/<br>Frequency (MHz) | Maximum Allowed Power(dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>10g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>10g</sub> (W/kg) | Plot No. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------|-----------|-----------------------------|----------------------------|-----------------------|------------|------------------------------------|----------------|------------------------------------|----------|
| <b>Product Specific 10-g SAR (Hotspot Off+Sensor On, Distance 0mm)</b>                                                                                                                                                                    |            |         |           |                             |                            |                       |            |                                    |                |                                    |          |
| Bottom Edge                                                                                                                                                                                                                               | standard   | 1RB     | 0         | 19100/1900                  | 23.00                      | 22.52                 | 0.034      | 1.870                              | 1.12           | 2.089                              | /        |
|                                                                                                                                                                                                                                           |            | 1RB     | 50        | 18900/1880                  | 23.00                      | 22.60                 | 0.008      | 1.920                              | 1.10           | 2.105                              | /        |
|                                                                                                                                                                                                                                           |            | 1RB     | 0         | 18700/1860                  | 23.00                      | 22.57                 | 0.105      | 1.913                              | 1.10           | 2.112                              | /        |
| Bottom Edge                                                                                                                                                                                                                               | standard   | 50%RB   | 50        | 19100/1900                  | 23.00                      | 22.58                 | 0.061      | 2.010                              | 1.10           | 2.214                              | /        |
|                                                                                                                                                                                                                                           |            | 50%RB   | 0         | 18900/1880                  | 23.00                      | 22.68                 | 0.014      | 1.990                              | 1.08           | 2.142                              | /        |
|                                                                                                                                                                                                                                           |            | 50%RB   | 0         | 18700/1860                  | 23.00                      | 22.53                 | 0.012      | 1.942                              | 1.11           | 2.164                              | /        |
| Bottom Edge                                                                                                                                                                                                                               | standard   | 100%RB  | 0         | 18700/1860                  | 23.00                      | 22.58                 | 0.008      | 1.950                              | 1.10           | 2.148                              | /        |
| <b>Product Specific 10-g SAR (Hotspot Off+Sensor Off, Distance 6mm)</b>                                                                                                                                                                   |            |         |           |                             |                            |                       |            |                                    |                |                                    |          |
| Bottom Edge                                                                                                                                                                                                                               | standard   | 1RB     | 0         | 19100/1900                  | 24.00                      | 23.73                 | 0.000      | 2.105                              | 1.06           | 2.240                              | /        |
|                                                                                                                                                                                                                                           |            | 1RB     | 50        | 18900/1880                  | 24.00                      | 23.78                 | 0.040      | 2.190                              | 1.05           | 2.304                              | 55       |
|                                                                                                                                                                                                                                           |            | 1RB     | 99        | 18700/1860                  | 24.00                      | 23.72                 | 0.019      | 2.061                              | 1.07           | 2.198                              | /        |
| Bottom Edge                                                                                                                                                                                                                               | standard   | 50%RB   | 0         | 18900/1880                  | 23.00                      | 22.87                 | 0.110      | 1.650                              | 1.03           | 1.700                              | /        |
| Bottom Edge                                                                                                                                                                                                                               | standard   | 100%RB  | 0         | 18900/1880                  | 23.00                      | 22.70                 | 0.050      | 1.822                              | 1.07           | 1.952                              | /        |
| Bottom Edge                                                                                                                                                                                                                               | SIM 2      | 1RB     | 50        | 18900/1880                  | 24.00                      | 23.78                 | 0.015      | 2.095                              | 1.05           | 2.204                              | /        |
| Bottom Edge                                                                                                                                                                                                                               | Battery 2  | 1RB     | 50        | 18900/1880                  | 24.00                      | 23.78                 | 0.024      | 2.122                              | 1.05           | 2.232                              | /        |
| Bottom Edge                                                                                                                                                                                                                               | Battery 3  | 1RB     | 50        | 18900/1880                  | 24.00                      | 23.78                 | 0.006      | 2.104                              | 1.05           | 2.213                              | /        |
| Bottom Edge                                                                                                                                                                                                                               | Repeated   | 1RB     | 50        | 18900/1880                  | 24.00                      | 23.78                 | -0.015     | 2.016                              | 1.05           | 2.121                              | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.<br>2. According to Clause 5.3.10 in this report, 6mm is used as the more conservative test separation distance for additional SAR testing with sensor off. |            |         |           |                             |                            |                       |            |                                    |                |                                    |          |

| Measurement Variability                                                                                                                                                                                                                                                                                                       |                            |                                          |                                                      |       |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------------------|------------------------------------------------------|-------|
| Test Position                                                                                                                                                                                                                                                                                                                 | Channel/<br>Frequency(MHz) | MAX Measured SAR <sub>1g</sub><br>(W/kg) | 1 <sup>st</sup> Repeated SAR <sub>1g</sub><br>(W/kg) | Ratio |
| Bottom Edge                                                                                                                                                                                                                                                                                                                   | 20300/1745                 | 2.190                                    | 2.016                                                | 1.09  |
| Note: 1) When the original highest measured SAR <sub>1g</sub> is $\geq 0.80$ W/kg or SAR <sub>10g</sub> is $\geq 2.0$ W/kg, the measurement was repeated once.<br>2) A second repeated measurement was preformed only if the ratio of largest to smallest SAR for the original and first repeated measurements was $> 1.20$ . |                            |                                          |                                                      |       |



Table 7: LTE Band 4 (20MHz, Antenna 1)

| Test Position                                        | Cover Type | RB size | RB offset | Channel/<br>Frequency (MHz) | Maximum Allowed Power(dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|------------------------------------------------------|------------|---------|-----------|-----------------------------|----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR (REC On+Hotspot Off, QPSK)                  |            |         |           |                             |                            |                       |            |                                   |                |                                   |          |
| Left Cheek                                           | standard   | 1RB     | 0         | 20050/1720                  | 24.00                      | 23.63                 | -0.027     | 0.268                             | 1.09           | 0.292                             | 56       |
| Left Tilt                                            | standard   | 1RB     | 0         | 20050/1720                  | 24.00                      | 23.63                 | 0.031      | 0.056                             | 1.09           | 0.061                             | /        |
| Right Cheek                                          | standard   | 1RB     | 0         | 20050/1720                  | 24.00                      | 23.63                 | 0.033      | 0.125                             | 1.09           | 0.136                             | /        |
| Right Tilt                                           | standard   | 1RB     | 0         | 20050/1720                  | 24.00                      | 23.63                 | 0.035      | 0.057                             | 1.09           | 0.062                             | /        |
| Left Cheek                                           | standard   | 50%RB   | 50        | 20300/1745                  | 23.00                      | 22.53                 | 0.071      | 0.209                             | 1.11           | 0.233                             | /        |
| Left Tilt                                            | standard   | 50%RB   | 50        | 20300/1745                  | 23.00                      | 22.53                 | 0.050      | 0.043                             | 1.11           | 0.048                             | /        |
| Right Cheek                                          | standard   | 50%RB   | 50        | 20300/1745                  | 23.00                      | 22.53                 | 0.091      | 0.100                             | 1.11           | 0.111                             | /        |
| Right Tilt                                           | standard   | 50%RB   | 50        | 20300/1745                  | 23.00                      | 22.53                 | 0.039      | 0.065                             | 1.11           | 0.073                             | /        |
| Head SAR (Hotspot On, QPSK)                          |            |         |           |                             |                            |                       |            |                                   |                |                                   |          |
| Left Cheek                                           | standard   | 1RB     | 0         | 20050/1720                  | 18.50                      | 18.33                 | 0.020      | 0.066                             | 1.04           | 0.069                             | /        |
| Left Tilt                                            | standard   | 1RB     | 0         | 20050/1720                  | 18.50                      | 18.33                 | 0.025      | 0.014                             | 1.04           | 0.015                             | /        |
| Right Cheek                                          | standard   | 1RB     | 0         | 20050/1720                  | 18.50                      | 18.33                 | 0.033      | 0.035                             | 1.04           | 0.036                             | /        |
| Right Tilt                                           | standard   | 1RB     | 0         | 20050/1720                  | 18.50                      | 18.33                 | 0.120      | 0.021                             | 1.04           | 0.022                             | /        |
| Left Cheek                                           | standard   | 50%RB   | 50        | 20300/1745                  | 18.50                      | 18.06                 | 0.113      | 0.064                             | 1.11           | 0.070                             | /        |
| Left Tilt                                            | standard   | 50%RB   | 50        | 20300/1745                  | 18.50                      | 18.06                 | 0.058      | 0.014                             | 1.11           | 0.016                             | /        |
| Right Cheek                                          | standard   | 50%RB   | 50        | 20300/1745                  | 18.50                      | 18.06                 | 0.150      | 0.034                             | 1.11           | 0.037                             | /        |
| Right Tilt                                           | standard   | 50%RB   | 50        | 20300/1745                  | 18.50                      | 18.06                 | 0.010      | 0.020                             | 1.11           | 0.023                             | /        |
| Head SAR (For Worse Case)                            |            |         |           |                             |                            |                       |            |                                   |                |                                   |          |
| Left Cheek                                           | SIM 2      | 1RB     | 0         | 20050/1720                  | 24.00                      | 23.63                 | 0.058      | 0.261                             | 1.09           | 0.284                             | /        |
| Left Cheek                                           | Battery 2  | 1RB     | 0         | 20050/1720                  | 24.00                      | 23.63                 | 0.019      | 0.254                             | 1.09           | 0.277                             | /        |
| Left Cheek                                           | Battery 3  | 1RB     | 0         | 20050/1720                  | 24.00                      | 23.63                 | 0.004      | 0.260                             | 1.09           | 0.283                             | /        |
| Body-worn (REC Off+Hotspot Off, QPSK, Distance 15mm) |            |         |           |                             |                            |                       |            |                                   |                |                                   |          |
| Back Side                                            | standard   | 1RB     | 0         | 20300/1745                  | 24.00                      | 23.54                 | 0.100      | 0.758                             | 1.11           | 0.843                             | /        |
|                                                      |            | 1RB     | 0         | 20175/1732.5                | 24.00                      | 23.58                 | 0.070      | 0.744                             | 1.10           | 0.820                             | /        |
|                                                      |            | 1RB     | 0         | 20050/1720                  | 24.00                      | 23.63                 | -0.150     | 0.789                             | 1.09           | 0.859                             | 57       |
| Front Side                                           | standard   | 1RB     | 0         | 20050/1720                  | 24.00                      | 23.63                 | 0.030      | 0.670                             | 1.09           | 0.730                             | /        |
| Back Side                                            | standard   | 50%RB   | 50        | 20300/1745                  | 23.00                      | 22.53                 | 0.020      | 0.578                             | 1.11           | 0.644                             | /        |
| Front Side                                           | standard   | 50%RB   | 50        | 20300/1745                  | 23.00                      | 22.53                 | 0.120      | 0.549                             | 1.11           | 0.612                             | /        |
| Back Side                                            | standard   | 100%RB  | 0         | 20050/1720                  | 23.00                      | 22.53                 | 0.061      | 0.551                             | 1.11           | 0.614                             | /        |
| Back Side                                            | SIM 2      | 1RB     | 0         | 20050/1720                  | 24.00                      | 23.63                 | 0.020      | 0.711                             | 1.09           | 0.775                             | /        |
| Back Side                                            | Battery 2  | 1RB     | 0         | 20050/1720                  | 24.00                      | 23.63                 | 0.102      | 0.739                             | 1.09           | 0.804                             | /        |
| Back Side                                            | Battery 3  | 1RB     | 0         | 20050/1720                  | 24.00                      | 23.63                 | 0.126      | 0.764                             | 1.09           | 0.832                             | /        |
| Hotspot (Hotspot On, QPSK, Distance 10mm)            |            |         |           |                             |                            |                       |            |                                   |                |                                   |          |
| Back Side                                            | standard   | 1RB     | 0         | 20050/1720                  | 18.50                      | 18.33                 | 0.080      | 0.383                             | 1.04           | 0.398                             | /        |
| Front Side                                           | standard   | 1RB     | 0         | 20050/1720                  | 18.50                      | 18.33                 | 0.033      | 0.412                             | 1.04           | 0.428                             | /        |



|             |          |       |     |            |       |       |       |       |      |       |     |
|-------------|----------|-------|-----|------------|-------|-------|-------|-------|------|-------|-----|
| Left Edge   | standard | 1RB   | 0   | 20050/1720 | 18.50 | 18.33 | 0.180 | 0.032 | 1.04 | 0.033 | /   |
| Right Edge  | standard | 1RB   | 0   | 20050/1720 | 18.50 | 18.33 | 0.060 | 0.078 | 1.04 | 0.081 | /   |
| Top Edge    | N/A      | N/A   | N/A | N/A        | N/A   | N/A   | N/A   | N/A   | N/A  | N/A   | N/A |
| Bottom Edge | standard | 1RB   | 0   | 20050/1720 | 18.50 | 18.33 | 0.041 | 0.399 | 1.04 | 0.415 | /   |
| Back Side   | standard | 50%RB | 50  | 20300/1745 | 18.50 | 18.06 | 0.170 | 0.401 | 1.11 | 0.444 | /   |
| Front Side  | standard | 50%RB | 50  | 20300/1745 | 18.50 | 18.06 | 0.031 | 0.406 | 1.11 | 0.449 | /   |
| Left Edge   | standard | 50%RB | 50  | 20300/1745 | 18.50 | 18.06 | 0.160 | 0.029 | 1.11 | 0.032 | /   |
| Right Edge  | standard | 50%RB | 50  | 20300/1745 | 18.50 | 18.06 | 0.042 | 0.079 | 1.11 | 0.088 | /   |
| Top Edge    | N/A      | N/A   | N/A | N/A        | N/A   | N/A   | N/A   | N/A   | N/A  | N/A   | N/A |
| Bottom Edge | standard | 50%RB | 50  | 20300/1745 | 18.50 | 18.06 | 0.043 | 0.443 | 1.11 | 0.490 | 58  |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 0.8$  W/kg.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

| MAX Adjusted SAR |            |         |           |                                |                                      |                             |                                         |                   |                                                  |            |
|------------------|------------|---------|-----------|--------------------------------|--------------------------------------|-----------------------------|-----------------------------------------|-------------------|--------------------------------------------------|------------|
| Test Position    | Cover Type | RB size | RB offset | Channel/<br>Frequency<br>(MHz) | Full power<br>Tune-up<br>limit (dBm) | Conducted<br>Power<br>(dBm) | Reported<br>SAR <sub>1g</sub><br>(W/kg) | Scaling<br>Factor | Full power<br>Report SAR <sub>1g</sub><br>(W/kg) | 0mm<br>SAR |
| Back Side        | standard   | 1RB     | 0         | 20050/1720                     | 24.00                                | 18.33                       | 0.398                                   | 3.55              | 1.413                                            | Yes        |
| Front Side       | standard   | 1RB     | 0         | 20050/1720                     | 24.00                                | 18.33                       | 0.428                                   | 3.55              | 1.520                                            | Yes        |
| Left Edge        | standard   | 1RB     | 0         | 20050/1720                     | 24.00                                | 18.33                       | 0.033                                   | 3.55              | 0.117                                            | No         |
| Right Edge       | standard   | 1RB     | 0         | 20050/1720                     | 24.00                                | 18.33                       | 0.081                                   | 3.55              | 0.288                                            | No         |
| Top Edge         | N/A        | N/A     | N/A       | N/A                            | N/A                                  | N/A                         | N/A                                     | N/A               | N/A                                              | N/A        |
| Bottom Edge      | standard   | 1RB     | 0         | 20050/1720                     | 24.00                                | 18.33                       | 0.415                                   | 3.55              | 1.472                                            | Yes        |
| Back Side        | standard   | 50%RB   | 50        | 20300/1745                     | 23.00                                | 18.06                       | 0.444                                   | 2.82              | 1.251                                            | Yes        |
| Front Side       | standard   | 50%RB   | 50        | 20300/1745                     | 23.00                                | 18.06                       | 0.449                                   | 2.82              | 1.266                                            | Yes        |
| Left Edge        | standard   | 50%RB   | 50        | 20300/1745                     | 23.00                                | 18.06                       | 0.032                                   | 2.82              | 0.089                                            | No         |
| Right Edge       | standard   | 50%RB   | 50        | 20300/1745                     | 23.00                                | 18.06                       | 0.088                                   | 2.82              | 0.247                                            | No         |
| Top Edge         | N/A        | N/A     | N/A       | N/A                            | N/A                                  | N/A                         | N/A                                     | N/A               | N/A                                              | N/A        |
| Bottom Edge      | standard   | 50%RB   | 50        | 20300/1745                     | 23.00                                | 18.06                       | 0.490                                   | 2.82              | 1.382                                            | Yes        |

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $> 1.2$  W/kg, Product Specific 10-g SAR is required.

| Test Position                                                   | Cover Type | RB size | RB offset | Channel/<br>Frequency<br>(MHz) | Maximum<br>Allowed<br>Power(dBm) | Conducted<br>Power<br>(dBm) | Drift<br>(dB) | Measured<br>SAR <sub>10g</sub><br>(W/kg) | Scaling<br>Factor | Reported<br>SAR <sub>10g</sub><br>(W/kg) | Plot<br>No. |
|-----------------------------------------------------------------|------------|---------|-----------|--------------------------------|----------------------------------|-----------------------------|---------------|------------------------------------------|-------------------|------------------------------------------|-------------|
| Product Specific 10-g SAR (Hotspot Off+Sensor On, Distance 0mm) |            |         |           |                                |                                  |                             |               |                                          |                   |                                          |             |
| Back Side                                                       | standard   | 1RB     | 0         | 20300/1745                     | 22.00                            | 21.29                       | 0.016         | 1.629                                    | 1.18              | 1.918                                    | /           |
|                                                                 |            | 1RB     | 0         | 20175/1732.5                   | 22.00                            | 21.31                       | -0.019        | 1.661                                    | 1.17              | 1.947                                    | /           |
|                                                                 |            | 1RB     | 0         | 20050/1720                     | 22.00                            | 21.38                       | 0.051         | 1.690                                    | 1.15              | 1.949                                    | /           |



|                                                                  |           |        |    |              |       |       |        |       |      |       |    |
|------------------------------------------------------------------|-----------|--------|----|--------------|-------|-------|--------|-------|------|-------|----|
| Front Side                                                       | standard  | 1RB    | 0  | 20300/1745   | 22.00 | 21.29 | 0.000  | 1.994 | 1.18 | 2.348 | /  |
|                                                                  |           | 1RB    | 0  | 20175/1732.5 | 22.00 | 21.31 | 0.083  | 2.091 | 1.17 | 2.451 | /  |
|                                                                  |           | 1RB    | 0  | 20050/1720   | 22.00 | 21.38 | 0.040  | 2.150 | 1.15 | 2.480 | /  |
| Bottom Edge                                                      | standard  | 1RB    | 0  | 20300/1745   | 22.00 | 21.29 | -0.011 | 1.910 | 1.18 | 2.249 | /  |
|                                                                  |           | 1RB    | 0  | 20175/1732.5 | 22.00 | 21.31 | -0.013 | 1.912 | 1.17 | 2.241 | /  |
|                                                                  |           | 1RB    | 0  | 20050/1720   | 22.00 | 21.38 | -0.070 | 1.970 | 1.15 | 2.272 | /  |
| Back Side                                                        | standard  | 50%RB  | 50 | 20300/1745   | 22.00 | 21.27 | 0.016  | 1.740 | 1.18 | 2.058 | /  |
|                                                                  |           | 50%RB  | 0  | 20175/1732.5 | 22.00 | 21.17 | 0.105  | 1.775 | 1.21 | 2.149 | /  |
|                                                                  |           | 50%RB  | 0  | 20050/1720   | 22.00 | 21.25 | -0.008 | 1.801 | 1.19 | 2.140 | /  |
| Front Side                                                       | standard  | 50%RB  | 50 | 20300/1745   | 22.00 | 21.27 | 0.009  | 2.110 | 1.18 | 2.496 | /  |
|                                                                  |           | 50%RB  | 0  | 20175/1732.5 | 22.00 | 21.17 | 0.040  | 2.010 | 1.21 | 2.433 | /  |
|                                                                  |           | 50%RB  | 0  | 20050/1720   | 22.00 | 21.25 | 0.033  | 2.000 | 1.19 | 2.377 | /  |
| Bottom Edge                                                      | standard  | 50%RB  | 50 | 20300/1745   | 22.00 | 21.27 | 0.018  | 2.050 | 1.18 | 2.425 | /  |
|                                                                  |           | 50%RB  | 0  | 20175/1732.5 | 22.00 | 21.17 | 0.064  | 1.980 | 1.21 | 2.397 | /  |
|                                                                  |           | 50%RB  | 0  | 20050/1720   | 22.00 | 21.25 | 0.007  | 2.004 | 1.19 | 2.382 | /  |
| Back Side                                                        | standard  | 100%RB | 0  | 20050/1720   | 22.00 | 21.26 | 0.025  | 1.660 | 1.19 | 1.968 | /  |
| Front Side                                                       | standard  | 100%RB | 0  | 20050/1720   | 22.00 | 21.26 | 0.120  | 1.920 | 1.19 | 2.277 | /  |
| Bottom Edge                                                      | standard  | 100%RB | 0  | 20050/1720   | 22.00 | 21.26 | 0.056  | 2.190 | 1.19 | 2.597 | 59 |
| Bottom Edge                                                      | SIM 2     | 50%RB  | 50 | 20300/1745   | 22.00 | 21.27 | 0.000  | 2.104 | 1.18 | 2.489 | /  |
| Bottom Edge                                                      | Battery 2 | 50%RB  | 50 | 20300/1745   | 22.00 | 21.27 | 0.027  | 2.170 | 1.18 | 2.567 | /  |
| Bottom Edge                                                      | Battery 3 | 50%RB  | 50 | 20300/1745   | 22.00 | 21.27 | 0.008  | 2.141 | 1.18 | 2.533 | /  |
| Bottom Edge                                                      | Repeated  | 50%RB  | 50 | 20300/1745   | 22.00 | 21.27 | 0.015  | 2.152 | 1.18 | 2.546 | /  |
| Product Specific 10-g SAR (Hotspot Off+Sensor Off, Distance 6mm) |           |        |    |              |       |       |        |       |      |       |    |
| Back Side                                                        | standard  | 1RB    | 0  | 20050/1720   | 24.00 | 23.63 | 0.070  | 1.310 | 1.09 | 1.426 | /  |
| Front Side                                                       | standard  | 1RB    | 0  | 20050/1720   | 24.00 | 23.63 | 0.022  | 1.270 | 1.09 | 1.383 | /  |
| Bottom Edge                                                      | standard  | 1RB    | 0  | 20300/1745   | 24.00 | 23.54 | 0.048  | 1.900 | 1.11 | 2.112 | /  |
|                                                                  |           | 1RB    | 0  | 20175/1732.5 | 24.00 | 23.58 | 0.006  | 1.971 | 1.10 | 2.171 | /  |
|                                                                  |           | 1RB    | 0  | 20050/1720   | 24.00 | 23.63 | 0.022  | 1.980 | 1.09 | 2.156 | /  |
| Back Side                                                        | standard  | 50%RB  | 50 | 20300/1745   | 23.00 | 22.53 | 0.018  | 1.205 | 1.11 | 1.343 | /  |
| Front Side                                                       | standard  | 50%RB  | 50 | 20300/1745   | 23.00 | 22.53 | 0.009  | 1.120 | 1.11 | 1.248 | /  |
| Bottom Edge                                                      | standard  | 50%RB  | 50 | 20300/1745   | 23.00 | 22.53 | 0.040  | 1.830 | 1.11 | 2.039 | /  |
| Bottom Edge                                                      | standard  | 100%RB | 0  | 20300/1745   | 23.00 | 22.52 | 0.108  | 1.860 | 1.12 | 2.077 | /  |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. According to Clause 5.3.10 in this report, 6mm is used as the more conservative test separation distance for additional SAR testing with sensor off.

| Measurement Variability                                                                                                                                        |                            |                                          |                                                      |       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|------------------------------------------|------------------------------------------------------|-------|
| Test Position                                                                                                                                                  | Channel/<br>Frequency(MHz) | MAX Measured SAR <sub>1g</sub><br>(W/kg) | 1 <sup>st</sup> Repeated SAR <sub>1g</sub><br>(W/kg) | Ratio |
| Bottom Edge                                                                                                                                                    | 20300/1745                 | 2.190                                    | 2.152                                                | 1.02  |
| Note: 1) When the original highest measured SAR <sub>1g</sub> is $\geq 0.80$ W/kg or SAR <sub>10g</sub> is $\geq 2.0$ W/kg, the measurement was repeated once. |                            |                                          |                                                      |       |
| 2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was $> 1.20$ .    |                            |                                          |                                                      |       |



Table 8: LTE Band 5 (10MHz, Antenna 1)

| Test Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cover Type | RB size | RB offset | Channel/ Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------|-----------|--------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (QPSK)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.100      | 0.153                             | 1.22           | 0.187                             | /        |
| Left Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.120      | 0.093                             | 1.22           | 0.113                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | standard   | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.130      | 0.224                             | 1.22           | 0.273                             | 60       |
| Right Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.120      | 0.109                             | 1.22           | 0.133                             | /        |
| Left Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 50%RB   | 13        | 20525/836.5              | 23.00                       | 22.17                 | 0.033      | 0.122                             | 1.21           | 0.148                             | /        |
| Left Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 13        | 20525/836.5              | 23.00                       | 22.17                 | 0.019      | 0.087                             | 1.21           | 0.105                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | standard   | 50%RB   | 13        | 20525/836.5              | 23.00                       | 22.17                 | 0.190      | 0.220                             | 1.21           | 0.266                             | /        |
| Right Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 50%RB   | 13        | 20525/836.5              | 23.00                       | 22.17                 | 0.100      | 0.105                             | 1.21           | 0.127                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | SIM 2      | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.051      | 0.195                             | 1.22           | 0.238                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Battery 2  | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.060      | 0.204                             | 1.22           | 0.249                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Battery 3  | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.018      | 0.210                             | 1.22           | 0.256                             | /        |
| <b>Body-worn (QPSK, Distance 15mm)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.040      | 0.215                             | 1.22           | 0.262                             | 61       |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | -0.090     | 0.210                             | 1.22           | 0.256                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 13        | 20525/836.5              | 23.00                       | 22.17                 | 0.060      | 0.206                             | 1.21           | 0.249                             | /        |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 50%RB   | 13        | 20525/836.5              | 23.00                       | 22.17                 | -0.110     | 0.200                             | 1.21           | 0.242                             | /        |
| <b>Hotspot (QPSK, Distance 10mm)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.040      | 0.322                             | 1.22           | 0.393                             | 62       |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | -0.090     | 0.309                             | 1.22           | 0.377                             | /        |
| Left Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.050      | 0.051                             | 1.22           | 0.063                             | /        |
| Right Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.000      | 0.207                             | 1.22           | 0.252                             | /        |
| Top Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A        | N/A     | N/A       | N/A                      | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | standard   | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.060      | 0.282                             | 1.22           | 0.344                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 13        | 20525/836.5              | 23.00                       | 22.17                 | 0.050      | 0.307                             | 1.21           | 0.372                             | /        |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 50%RB   | 13        | 20525/836.5              | 23.00                       | 22.17                 | -0.011     | 0.307                             | 1.21           | 0.372                             | /        |
| Left Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 13        | 20525/836.5              | 23.00                       | 22.17                 | 0.020      | 0.050                             | 1.21           | 0.061                             | /        |
| Right Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 50%RB   | 13        | 20525/836.5              | 23.00                       | 22.17                 | 0.030      | 0.190                             | 1.21           | 0.230                             | /        |
| Top Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A        | N/A     | N/A       | N/A                      | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | standard   | 50%RB   | 13        | 20525/836.5              | 23.00                       | 22.17                 | 0.110      | 0.263                             | 1.21           | 0.318                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SIM 2      | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.016      | 0.297                             | 1.22           | 0.362                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Battery 2  | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.082      | 0.315                             | 1.22           | 0.384                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Battery 3  | 1RB     | 25        | 20450/829                | 24.00                       | 23.14                 | 0.070      | 0.304                             | 1.22           | 0.371                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.<br>2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is $\leq 0.8$ W/kg then testing at the other channels is not required for such test configuration(s).<br>3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was $\leq 1.2$ W/kg, no additional SAR evaluations using a headset cable were required. |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |





4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g *reported* SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.





Table 9: LTE Band 7 (20MHz, Antenna 1)

| Test Position                                       | Cover Type | RB size | RB offset | Channel/ Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|-----------------------------------------------------|------------|---------|-----------|--------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (REC On+Hotspot Off, QPSK)</b>          |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                          | standard   | 1RB     | 0         | 20850/2510               | 24.00                       | 23.61                 | 0.066      | 0.192                             | 1.09           | 0.210                             | /        |
| Left Tilt                                           | standard   | 1RB     | 0         | 20850/2510               | 24.00                       | 23.61                 | 0.025      | 0.156                             | 1.09           | 0.170                             | /        |
| Right Cheek                                         | standard   | 1RB     | 0         | 20850/2510               | 24.00                       | 23.61                 | 0.032      | 0.204                             | 1.09           | 0.223                             | /        |
| Right Tilt                                          | standard   | 1RB     | 0         | 20850/2510               | 24.00                       | 23.61                 | 0.059      | 0.125                             | 1.09           | 0.137                             | /        |
| Left Cheek                                          | standard   | 50%RB   | 0         | 20850/2510               | 23.00                       | 22.54                 | 0.046      | 0.176                             | 1.11           | 0.195                             | /        |
| Left Tilt                                           | standard   | 50%RB   | 0         | 20850/2510               | 23.00                       | 22.54                 | 0.033      | 0.142                             | 1.11           | 0.158                             | /        |
| Right Cheek                                         | standard   | 50%RB   | 0         | 20850/2510               | 23.00                       | 22.54                 | 0.054      | 0.181                             | 1.11           | 0.201                             | /        |
| Right Tilt                                          | standard   | 50%RB   | 0         | 20850/2510               | 23.00                       | 22.54                 | 0.053      | 0.120                             | 1.11           | 0.133                             | /        |
| <b>Head SAR (Hotspot On, QPSK)</b>                  |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                          | standard   | 1RB     | 99        | 20850/2510               | 23.00                       | 22.41                 | 0.025      | 0.174                             | 1.15           | 0.200                             | /        |
| Left Tilt                                           | standard   | 1RB     | 99        | 20850/2510               | 23.00                       | 22.41                 | 0.023      | 0.153                             | 1.15           | 0.176                             | /        |
| Right Cheek                                         | standard   | 1RB     | 99        | 20850/2510               | 23.00                       | 22.41                 | 0.093      | 0.182                             | 1.15           | 0.208                             | /        |
| Right Tilt                                          | standard   | 1RB     | 99        | 20850/2510               | 23.00                       | 22.41                 | 0.023      | 0.122                             | 1.15           | 0.140                             | /        |
| Left Cheek                                          | standard   | 50%RB   | 0         | 20850/2510               | 23.00                       | 22.48                 | 0.040      | 0.176                             | 1.13           | 0.198                             | /        |
| Left Tilt                                           | standard   | 50%RB   | 0         | 20850/2510               | 23.00                       | 22.48                 | 0.020      | 0.153                             | 1.13           | 0.172                             | /        |
| Right Cheek                                         | standard   | 50%RB   | 0         | 20850/2510               | 23.00                       | 22.48                 | 0.104      | 0.182                             | 1.13           | 0.205                             | /        |
| Right Tilt                                          | standard   | 50%RB   | 0         | 20850/2510               | 23.00                       | 22.48                 | 0.021      | 0.126                             | 1.00           | 0.126                             | /        |
| <b>Head SAR (For Worse Case)</b>                    |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                         | SIM 2      | 1RB     | 0         | 20850/2510               | 24.00                       | 23.61                 | 0.192      | 0.196                             | 1.09           | 0.215                             | /        |
| Right Cheek                                         | Battery 2  | 1RB     | 0         | 20850/2510               | 24.00                       | 23.61                 | -0.050     | 0.233                             | 1.09           | 0.255                             | 63       |
| Right Cheek                                         | Battery 3  | 1RB     | 0         | 20850/2510               | 24.00                       | 23.61                 | 0.026      | 0.193                             | 1.09           | 0.211                             | /        |
| <b>Body-worn (Hotspot Off, QPSK, Distance 15mm)</b> |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                           | standard   | 1RB     | 0         | 20850/2510               | 24.00                       | 23.61                 | -0.120     | 0.237                             | 1.09           | 0.259                             | /        |
| Front Side                                          | standard   | 1RB     | 0         | 20850/2510               | 24.00                       | 23.61                 | -0.070     | 0.283                             | 1.09           | 0.310                             | 64       |
| Back Side                                           | standard   | 50%RB   | 0         | 20850/2510               | 24.00                       | 22.54                 | -0.024     | 0.181                             | 1.11           | 0.201                             | /        |
| Front Side                                          | standard   | 50%RB   | 0         | 20850/2510               | 24.00                       | 22.54                 | 0.021      | 0.223                             | 1.11           | 0.248                             | /        |
| <b>Hotspot (Hotspot On, QPSK, Distance 10mm)</b>    |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                           | standard   | 1RB     | 99        | 20850/2510               | 23.00                       | 22.41                 | -0.040     | 0.468                             | 1.15           | 0.536                             | /        |
| Front Side                                          | standard   | 1RB     | 99        | 20850/2510               | 23.00                       | 22.41                 | -0.190     | 0.526                             | 1.15           | 0.603                             | 65       |
| Left Edge                                           | standard   | 1RB     | 99        | 20850/2510               | 23.00                       | 22.41                 | 0.060      | 0.154                             | 1.15           | 0.176                             | /        |
| Right Edge                                          | standard   | 1RB     | 99        | 20850/2510               | 23.00                       | 22.41                 | 0.120      | 0.118                             | 1.15           | 0.135                             | /        |
| Top Edge                                            | N/A        | N/A     | N/A       | N/A                      | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                         | standard   | 1RB     | 99        | 20850/2510               | 23.00                       | 22.41                 | 0.000      | 0.450                             | 1.15           | 0.515                             | /        |
| Back Side                                           | standard   | 50%RB   | 0         | 20850/2510               | 23.00                       | 22.48                 | 0.000      | 0.457                             | 1.13           | 0.515                             | /        |



|             |           |       |     |            |       |       |        |       |      |       |     |
|-------------|-----------|-------|-----|------------|-------|-------|--------|-------|------|-------|-----|
| Front Side  | standard  | 50%RB | 0   | 20850/2510 | 23.00 | 22.48 | -0.053 | 0.491 | 1.13 | 0.553 | /   |
| Left Edge   | standard  | 50%RB | 0   | 20850/2510 | 23.00 | 22.48 | 0.027  | 0.148 | 1.13 | 0.167 | /   |
| Right Edge  | standard  | 50%RB | 0   | 20850/2510 | 23.00 | 22.48 | 0.024  | 0.119 | 1.13 | 0.134 | /   |
| Top Edge    | N/A       | N/A   | N/A | N/A        | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Bottom Edge | standard  | 50%RB | 0   | 20850/2510 | 23.00 | 22.48 | 0.010  | 0.430 | 1.13 | 0.485 | /   |
| Front Side  | SIM 2     | 1RB   | 99  | 20850/2510 | 23.00 | 22.41 | 0.060  | 0.462 | 1.15 | 0.529 | /   |
| Front Side  | Battery 2 | 1RB   | 99  | 20850/2510 | 23.00 | 22.41 | -0.130 | 0.464 | 1.15 | 0.532 | /   |
| Front Side  | Battery 3 | 1RB   | 99  | 20850/2510 | 23.00 | 22.41 | -0.100 | 0.492 | 1.15 | 0.564 | /   |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

| MAX Adjusted SAR |            |         |           |                                |                                      |                             |                                         |                   |                                                  |            |
|------------------|------------|---------|-----------|--------------------------------|--------------------------------------|-----------------------------|-----------------------------------------|-------------------|--------------------------------------------------|------------|
| Test Position    | Cover Type | RB size | RB offset | Channel/<br>Frequency<br>(MHz) | Full power<br>Tune-up<br>limit (dBm) | Conducted<br>Power<br>(dBm) | Reported<br>SAR <sub>1g</sub><br>(W/kg) | Scaling<br>Factor | Full power<br>Report SAR <sub>1g</sub><br>(W/kg) | 0mm<br>SAR |
| Back Side        | standard   | 1RB     | 99        | 20850/2510                     | 23.60                                | 22.41                       | 0.536                                   | 1.15              | 0.616                                            | No         |
| Front Side       | standard   | 1RB     | 99        | 20850/2510                     | 23.60                                | 22.41                       | 0.603                                   | 1.15              | 0.692                                            | No         |
| Left Edge        | standard   | 1RB     | 99        | 20850/2510                     | 23.60                                | 22.41                       | 0.176                                   | 1.15              | 0.203                                            | No         |
| Right Edge       | standard   | 1RB     | 99        | 20850/2510                     | 23.60                                | 22.41                       | 0.135                                   | 1.15              | 0.155                                            | No         |
| Top Edge         | N/A        | N/A     | N/A       | N/A                            | N/A                                  | N/A                         | N/A                                     | N/A               | N/A                                              | N/A        |
| Bottom Edge      | standard   | 1RB     | 99        | 20850/2510                     | 23.60                                | 22.41                       | 0.515                                   | 1.15              | 0.592                                            | No         |
| Back Side        | standard   | 50%RB   | 0         | 20850/2510                     | 22.60                                | 22.48                       | 0.515                                   | 0.91              | 0.470                                            | No         |
| Front Side       | standard   | 50%RB   | 0         | 20850/2510                     | 22.60                                | 22.48                       | 0.553                                   | 0.91              | 0.505                                            | No         |
| Left Edge        | standard   | 50%RB   | 0         | 20850/2510                     | 22.60                                | 22.48                       | 0.167                                   | 0.91              | 0.152                                            | No         |
| Right Edge       | standard   | 50%RB   | 0         | 20850/2510                     | 22.60                                | 22.48                       | 0.134                                   | 0.91              | 0.122                                            | No         |
| Top Edge         | N/A        | N/A     | N/A       | N/A                            | N/A                                  | N/A                         | N/A                                     | N/A               | N/A                                              | N/A        |
| Bottom Edge      | standard   | 50%RB   | 0         | 20850/2510                     | 22.60                                | 22.48                       | 0.485                                   | 0.91              | 0.442                                            | No         |
| Front Side       | SIM 2      | 1RB     | 99        | 20850/2510                     | 22.60                                | 22.41                       | 0.529                                   | 0.91              | 0.483                                            | No         |
| Front Side       | Battery 2  | 1RB     | 99        | 20850/2510                     | 22.60                                | 22.41                       | 0.532                                   | 0.91              | 0.485                                            | No         |
| Front Side       | Battery 3  | 1RB     | 99        | 20850/2510                     | 22.60                                | 22.41                       | 0.564                                   | 0.91              | 0.514                                            | No         |

Note: According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



Table 10: LTE Band 12 (20MHz, Antenna 1)

| Test Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Cover Type | RB size | RB offset | Channel/ Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------|-----------|--------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (QPSK)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | standard   | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.033      | 0.194                             | 1.11           | 0.215                             | /        |
| Left Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | standard   | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.100      | 0.155                             | 1.11           | 0.171                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | standard   | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.043      | 0.221                             | 1.11           | 0.245                             | /        |
| Right Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | standard   | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.110      | 0.141                             | 1.11           | 0.156                             | /        |
| Left Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | standard   | 50%RB   | 13        | 23130/711                | 23.00                       | 22.66                 | 0.135      | 0.177                             | 1.08           | 0.192                             | /        |
| Left Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | standard   | 50%RB   | 13        | 23130/711                | 23.00                       | 22.66                 | 0.028      | 0.153                             | 1.08           | 0.165                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | standard   | 50%RB   | 13        | 23130/711                | 23.00                       | 22.66                 | 0.060      | 0.198                             | 1.08           | 0.214                             | /        |
| Right Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | standard   | 50%RB   | 13        | 23130/711                | 23.00                       | 22.66                 | 0.110      | 0.136                             | 1.08           | 0.147                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SIM 2      | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.027      | 0.212                             | 1.11           | 0.235                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Battery 2  | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.130      | 0.227                             | 1.11           | 0.251                             | 66       |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Battery 3  | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.129      | 0.152                             | 1.11           | 0.168                             | /        |
| <b>Body-worn (QPSK, Distance 15mm)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | standard   | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.000      | 0.200                             | 1.11           | 0.221                             | 67       |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | standard   | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | -0.020     | 0.185                             | 1.11           | 0.205                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | standard   | 50%RB   | 13        | 23130/711                | 23.00                       | 22.66                 | 0.000      | 0.166                             | 1.08           | 0.180                             | /        |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | standard   | 50%RB   | 13        | 23130/711                | 23.00                       | 22.66                 | -0.040     | 0.154                             | 1.08           | 0.167                             | /        |
| <b>Hotspot (QPSK, Distance 10mm)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | standard   | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.030      | 0.264                             | 1.11           | 0.292                             | /        |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | standard   | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | -0.070     | 0.266                             | 1.11           | 0.294                             | 68       |
| Left Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | standard   | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.030      | 0.056                             | 1.11           | 0.061                             | /        |
| Right Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | standard   | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.030      | 0.195                             | 1.11           | 0.216                             | /        |
| Top Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | N/A        | N/A     | N/A       | N/A                      | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | standard   | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.030      | 0.171                             | 1.11           | 0.189                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | standard   | 50%RB   | 13        | 23130/711                | 23.00                       | 22.66                 | 0.020      | 0.221                             | 1.08           | 0.239                             | /        |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | standard   | 50%RB   | 13        | 23130/711                | 23.00                       | 22.66                 | -0.040     | 0.223                             | 1.08           | 0.241                             | /        |
| Left Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | standard   | 50%RB   | 13        | 23130/711                | 23.00                       | 22.66                 | 0.070      | 0.047                             | 1.08           | 0.050                             | /        |
| Right Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | standard   | 50%RB   | 13        | 23130/711                | 23.00                       | 22.66                 | 0.000      | 0.185                             | 1.08           | 0.200                             | /        |
| Top Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | N/A        | N/A     | N/A       | N/A                      | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | standard   | 50%RB   | 13        | 23130/711                | 23.00                       | 22.66                 | 0.120      | 0.160                             | 1.08           | 0.173                             | /        |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | SIM 2      | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.017      | 0.261                             | 1.11           | 0.289                             | /        |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Battery 2  | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.005      | 0.248                             | 1.11           | 0.274                             | /        |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Battery 3  | 1RB     | 25        | 23130/711                | 24.00                       | 23.56                 | 0.046      | 0.251                             | 1.11           | 0.278                             | /        |
| <p>Note: 1. The value with blue color is the maximum SAR Value of each test band.</p> <p>2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is <math>\leq 0.8</math> W/kg then testing at the other channels is not required for such test configuration(s).</p> <p>3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was <math>\leq 1.2</math> W/kg, no additional SAR evaluations using a headset cable were required.</p> |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |



4. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g *reported* SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.



Table 11: LTE Band 17 (10MHz, Antenna 1)

| Test Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Cover Type | RB size | RB offset | Channel/Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------|-----------|-------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (QPSK)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | 0.085      | 0.189                             | 1.11           | 0.210                             | /        |
| Left Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | standard   | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | 0.160      | 0.179                             | 1.11           | 0.199                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | -0.040     | 0.218                             | 1.11           | 0.242                             | 69       |
| Right Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | 0.090      | 0.149                             | 1.11           | 0.166                             | /        |
| Left Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 0         | 23790/710               | 23.00                       | 22.64                 | 0.086      | 0.174                             | 1.09           | 0.189                             | /        |
| Left Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | standard   | 50%RB   | 0         | 23790/710               | 23.00                       | 22.64                 | 0.031      | 0.158                             | 1.09           | 0.172                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 50%RB   | 0         | 23790/710               | 23.00                       | 22.64                 | 0.085      | 0.196                             | 1.09           | 0.213                             | /        |
| Right Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 0         | 23790/710               | 23.00                       | 22.64                 | 0.190      | 0.135                             | 1.09           | 0.146                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | SIM 2      | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | 0.007      | 0.204                             | 1.11           | 0.227                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Battery 2  | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | 0.100      | 0.210                             | 1.11           | 0.233                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Battery 3  | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | 0.065      | 0.209                             | 1.11           | 0.232                             | /        |
| <b>Body-worn (QPSK, Distance 15mm)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | standard   | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | 0.020      | 0.198                             | 1.11           | 0.220                             | 70       |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | 0.000      | 0.168                             | 1.11           | 0.187                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | standard   | 50%RB   | 0         | 23790/710               | 23.00                       | 22.64                 | 0.010      | 0.137                             | 1.09           | 0.149                             | /        |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 0         | 23790/710               | 23.00                       | 22.64                 | -0.030     | 0.127                             | 1.09           | 0.138                             | /        |
| <b>Hotspot (QPSK, Distance 10mm)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | standard   | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | 0.010      | 0.266                             | 1.11           | 0.296                             | 71       |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | -0.030     | 0.231                             | 1.11           | 0.257                             | /        |
| Left Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | standard   | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | -0.170     | 0.051                             | 1.11           | 0.056                             | /        |
| Right Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | 0.000      | 0.216                             | 1.11           | 0.240                             | /        |
| Top Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | N/A        | N/A     | N/A       | N/A                     | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | -0.020     | 0.158                             | 1.11           | 0.176                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | standard   | 50%RB   | 0         | 23790/710               | 23.00                       | 22.64                 | -0.010     | 0.215                             | 1.09           | 0.234                             | /        |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 0         | 23790/710               | 23.00                       | 22.64                 | -0.030     | 0.190                             | 1.09           | 0.206                             | /        |
| Left Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | standard   | 50%RB   | 0         | 23790/710               | 23.00                       | 22.64                 | -0.010     | 0.044                             | 1.09           | 0.047                             | /        |
| Right Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 0         | 23790/710               | 23.00                       | 22.64                 | 0.030      | 0.168                             | 1.09           | 0.183                             | /        |
| Top Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | N/A        | N/A     | N/A       | N/A                     | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 50%RB   | 0         | 23790/710               | 23.00                       | 22.64                 | -0.040     | 0.127                             | 1.09           | 0.138                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | SIM 2      | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | 0.030      | 0.257                             | 1.11           | 0.286                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Battery 2  | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | -0.020     | 0.242                             | 1.11           | 0.269                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Battery 3  | 1RB     | 0         | 23780/709               | 24.00                       | 23.54                 | 0.030      | 0.254                             | 1.11           | 0.282                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.<br>2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is $\leq 0.8$ W/kg then testing at the other channels is not required for such test configuration(s).<br>3. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are $\geq 0.8$ W/kg.<br>4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was $\leq 1.2$ W/kg, no |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |



additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g *reported* SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.



Table 12: LTE Band 26 (15MHz, Antenna 1)

| Test Position                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Cover Type | RB size | RB offset | Channel/ Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------|-----------|--------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (QPSK)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.081      | 0.130                             | 1.22           | 0.158                             | /        |
| Left Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.020      | 0.070                             | 1.22           | 0.086                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | standard   | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | -0.010     | 0.204                             | 1.22           | 0.249                             | 72       |
| Right Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.130      | 0.098                             | 1.22           | 0.120                             | /        |
| Left Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 50%RB   | 18        | 26865/831.5              | 23.00                       | 22.35                 | 0.049      | 0.124                             | 1.16           | 0.144                             | /        |
| Left Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 18        | 26865/831.5              | 23.00                       | 22.35                 | 0.060      | 0.070                             | 1.16           | 0.081                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | standard   | 50%RB   | 18        | 26865/831.5              | 23.00                       | 22.35                 | 0.170      | 0.197                             | 1.16           | 0.229                             | /        |
| Right Tilt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 50%RB   | 18        | 26865/831.5              | 23.00                       | 22.35                 | 0.180      | 0.096                             | 1.16           | 0.111                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | SIM 2      | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.011      | 0.176                             | 1.22           | 0.215                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Battery 2  | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.064      | 0.200                             | 1.22           | 0.244                             | /        |
| Right Cheek                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Battery 3  | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.029      | 0.188                             | 1.22           | 0.229                             | /        |
| <b>Body-worn (QPSK, Distance 15mm)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.030      | 0.274                             | 1.22           | 0.334                             | 73       |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | -0.070     | 0.230                             | 1.22           | 0.280                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 18        | 26865/831.5              | 23.00                       | 22.35                 | 0.020      | 0.235                             | 1.16           | 0.273                             | /        |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 50%RB   | 18        | 26865/831.5              | 23.00                       | 22.35                 | -0.050     | 0.211                             | 1.16           | 0.245                             | /        |
| <b>Hotspot (QPSK, Distance 10mm)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.050      | 0.381                             | 1.22           | 0.464                             | 74       |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | -0.080     | 0.348                             | 1.22           | 0.424                             | /        |
| Left Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.040      | 0.075                             | 1.22           | 0.092                             | /        |
| Right Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.070      | 0.228                             | 1.22           | 0.278                             | /        |
| Top Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A        | N/A     | N/A       | N/A                      | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | standard   | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.030      | 0.280                             | 1.22           | 0.341                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 18        | 26865/831.5              | 23.00                       | 22.35                 | 0.040      | 0.324                             | 1.16           | 0.376                             | /        |
| Front Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 50%RB   | 18        | 26865/831.5              | 23.00                       | 22.35                 | -0.050     | 0.298                             | 1.16           | 0.346                             | /        |
| Left Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | standard   | 50%RB   | 18        | 26865/831.5              | 23.00                       | 22.35                 | 0.090      | 0.058                             | 1.16           | 0.068                             | /        |
| Right Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | standard   | 50%RB   | 18        | 26865/831.5              | 23.00                       | 22.35                 | -0.020     | 0.188                             | 1.16           | 0.218                             | /        |
| Top Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | N/A        | N/A     | N/A       | N/A                      | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | standard   | 50%RB   | 18        | 26865/831.5              | 23.00                       | 22.35                 | 0.070      | 0.234                             | 1.16           | 0.272                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SIM 2      | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.090      | 0.359                             | 1.22           | 0.438                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Battery 2  | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.105      | 0.370                             | 1.22           | 0.451                             | /        |
| Back Side                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Battery 3  | 1RB     | 38        | 26775/822.5              | 24.00                       | 23.14                 | 0.004      | 0.367                             | 1.22           | 0.447                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.<br>2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is $\leq 0.8$ W/kg then testing at the other channels is not required for such test configuration(s).<br>3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was $\leq 1.2$ W/kg, no additional SAR evaluations using a headset cable were required. |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |



4. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g *reported* SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.





Table 13: LTE Band 38 (20MHz, Antenna 1)

| Test Position                                                                                                                                                                                                                                                        | Cover Type | RB size | RB offset | Channel/ Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------|-----------|--------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR (QPSK)                                                                                                                                                                                                                                                      |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                                                                                                                                                                                                                           | standard   | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | 0.000      | 0.177                             | 1.23           | 0.217                             | 75       |
| Left Tilt                                                                                                                                                                                                                                                            | standard   | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | 0.000      | 0.131                             | 1.23           | 0.162                             | /        |
| Right Cheek                                                                                                                                                                                                                                                          | standard   | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | -0.050     | 0.170                             | 1.23           | 0.209                             | /        |
| Right Tilt                                                                                                                                                                                                                                                           | standard   | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | 0.025      | 0.125                             | 1.23           | 0.154                             | /        |
| Left Cheek                                                                                                                                                                                                                                                           | standard   | 50%RB   | 0         | 38150/2610               | 23.00                       | 22.17                 | 0.044      | 0.169                             | 1.21           | 0.204                             | /        |
| Left Tilt                                                                                                                                                                                                                                                            | standard   | 50%RB   | 0         | 38150/2610               | 23.00                       | 22.17                 | 0.056      | 0.132                             | 1.21           | 0.159                             | /        |
| Right Cheek                                                                                                                                                                                                                                                          | standard   | 50%RB   | 0         | 38150/2610               | 23.00                       | 22.17                 | 0.000      | 0.171                             | 1.21           | 0.207                             | /        |
| Right Tilt                                                                                                                                                                                                                                                           | standard   | 50%RB   | 0         | 38150/2610               | 23.00                       | 22.17                 | 0.041      | 0.127                             | 1.21           | 0.153                             | /        |
| Left Cheek                                                                                                                                                                                                                                                           | SIM 2      | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | 0.045      | 0.165                             | 1.23           | 0.203                             | /        |
| Left Cheek                                                                                                                                                                                                                                                           | Battery 2  | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | 0.003      | 0.172                             | 1.23           | 0.212                             | /        |
| Left Cheek                                                                                                                                                                                                                                                           | Battery 3  | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | 0.017      | 0.168                             | 1.23           | 0.207                             | /        |
| Body-worn (QPSK, Distance 15mm)                                                                                                                                                                                                                                      |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                                                            | standard   | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | -0.052     | 0.145                             | 1.23           | 0.178                             | /        |
| Front Side                                                                                                                                                                                                                                                           | standard   | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | -0.040     | 0.154                             | 1.23           | 0.189                             | 76       |
| Back Side                                                                                                                                                                                                                                                            | standard   | 50%RB   | 0         | 38150/2610               | 23.00                       | 22.17                 | -0.034     | 0.142                             | 1.21           | 0.172                             | /        |
| Front Side                                                                                                                                                                                                                                                           | standard   | 50%RB   | 0         | 38150/2610               | 23.00                       | 22.17                 | -0.162     | 0.153                             | 1.21           | 0.185                             | /        |
| Hotspot (QPSK, Distance 10mm)                                                                                                                                                                                                                                        |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                                                            | standard   | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | -0.030     | 0.241                             | 1.23           | 0.296                             | /        |
| Front Side                                                                                                                                                                                                                                                           | standard   | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | -0.056     | 0.367                             | 1.23           | 0.452                             | 77       |
| Left Edge                                                                                                                                                                                                                                                            | standard   | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | 0.046      | 0.055                             | 1.23           | 0.067                             | /        |
| Right Edge                                                                                                                                                                                                                                                           | standard   | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | -0.120     | 0.104                             | 1.23           | 0.128                             | /        |
| Top Edge                                                                                                                                                                                                                                                             | N/A        | N/A     | N/A       | N/A                      | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                                                                                                                                                                                                                                          | standard   | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | -0.010     | 0.329                             | 1.23           | 0.405                             | /        |
| Back Side                                                                                                                                                                                                                                                            | standard   | 50%RB   | 0         | 38150/2610               | 23.00                       | 22.17                 | -0.034     | 0.230                             | 1.21           | 0.278                             | /        |
| Front Side                                                                                                                                                                                                                                                           | standard   | 50%RB   | 0         | 38150/2610               | 23.00                       | 22.17                 | -0.110     | 0.362                             | 1.21           | 0.438                             | /        |
| Left Edge                                                                                                                                                                                                                                                            | standard   | 50%RB   | 0         | 38150/2610               | 23.00                       | 22.17                 | -0.021     | 0.053                             | 1.21           | 0.065                             | /        |
| Right Edge                                                                                                                                                                                                                                                           | standard   | 50%RB   | 0         | 38150/2610               | 23.00                       | 22.17                 | 0.120      | 0.107                             | 1.21           | 0.130                             | /        |
| Top Edge                                                                                                                                                                                                                                                             | N/A        | N/A     | N/A       | N/A                      | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                                                                                                                                                                                                                                                          | standard   | 50%RB   | 0         | 38150/2610               | 23.00                       | 22.17                 | -0.070     | 0.346                             | 1.21           | 0.419                             | /        |
| Front Side                                                                                                                                                                                                                                                           | SIM 2      | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | 0.014      | 0.351                             | 1.23           | 0.432                             | /        |
| Front Side                                                                                                                                                                                                                                                           | Battery 2  | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | 0.009      | 0.334                             | 1.23           | 0.411                             | /        |
| Front Side                                                                                                                                                                                                                                                           | Battery 3  | 1RB     | 99        | 38150/2610               | 24.00                       | 23.10                 | 0.025      | 0.347                             | 1.23           | 0.427                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.                                                                                                                                                                                       |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| 2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is $\leq 0.8$ W/kg then testing at the other channels is not required for such test configuration(s). |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| 3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was $\leq 1.2$ W/kg, no additional SAR evaluations using a headset cable were required.                                                   |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |



4. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g *reported* SAR < 1.2 W/kg, Product Specific 10-g SAR is no required.



Table 14: LTE Band 41 (20MHz, Antenna 1)

| Test Position                   | Cover Type | RB size | RB offset | Channel/Frequency (MHz) | Maximum Allowed Power(dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|---------------------------------|------------|---------|-----------|-------------------------|----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR (QPSK)                 |            |         |           |                         |                            |                       |            |                                   |                |                                   |          |
| Left Cheek                      | standard   | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | 0.000      | 0.195                             | 1.17           | 0.227                             | 78       |
| Left Tilt                       | standard   | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | -0.029     | 0.134                             | 1.17           | 0.156                             | /        |
| Right Cheek                     | standard   | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | 0.087      | 0.170                             | 1.17           | 0.198                             | /        |
| Right Tilt                      | standard   | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | 0.023      | 0.133                             | 1.17           | 0.156                             | /        |
| Left Cheek                      | standard   | 50%RB   | 50        | 40690/2600              | 23.00                      | 22.38                 | 0.114      | 0.164                             | 1.15           | 0.189                             | /        |
| Left Tilt                       | standard   | 50%RB   | 50        | 40690/2600              | 23.00                      | 22.38                 | 0.034      | 0.125                             | 1.15           | 0.144                             | /        |
| Right Cheek                     | standard   | 50%RB   | 50        | 40690/2600              | 23.00                      | 22.38                 | -0.029     | 0.159                             | 1.15           | 0.184                             | /        |
| Right Tilt                      | standard   | 50%RB   | 50        | 40690/2600              | 23.00                      | 22.38                 | -0.087     | 0.125                             | 1.15           | 0.144                             | /        |
| Left Cheek                      | SIM 2      | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | 0.015      | 0.186                             | 1.17           | 0.217                             | /        |
| Left Cheek                      | Battery 2  | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | 0.002      | 0.191                             | 1.17           | 0.223                             | /        |
| Left Cheek                      | Battery 3  | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | 0.037      | 0.185                             | 1.17           | 0.216                             | /        |
| Body-worn (QPSK, Distance 15mm) |            |         |           |                         |                            |                       |            |                                   |                |                                   |          |
| Back Side                       | standard   | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | -0.020     | 0.160                             | 1.17           | 0.187                             | /        |
| Front Side                      | standard   | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | -0.130     | 0.211                             | 1.17           | 0.246                             | 79       |
| Back Side                       | standard   | 50%RB   | 50        | 40690/2600              | 23.00                      | 22.38                 | -0.070     | 0.123                             | 1.15           | 0.142                             | /        |
| Front Side                      | standard   | 50%RB   | 50        | 40690/2600              | 23.00                      | 22.38                 | -0.055     | 0.167                             | 1.15           | 0.193                             | /        |
| Hotspot (QPSK, Distance 10mm)   |            |         |           |                         |                            |                       |            |                                   |                |                                   |          |
| Back Side                       | standard   | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | -0.070     | 0.353                             | 1.17           | 0.412                             | /        |
| Front Side                      | standard   | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | -0.040     | 0.255                             | 1.17           | 0.298                             | /        |
| Left Edge                       | standard   | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | 0.060      | 0.104                             | 1.17           | 0.121                             | /        |
| Right Edge                      | standard   | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | 0.025      | 0.125                             | 1.17           | 0.146                             | /        |
| Top Edge                        | N/A        | N/A     | N/A       | N/A                     | N/A                        | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                     | standard   | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | -0.030     | 0.377                             | 1.17           | 0.440                             | 80       |
| Back Side                       | standard   | 50%RB   | 50        | 40690/2600              | 23.00                      | 22.38                 | -0.150     | 0.279                             | 1.15           | 0.322                             | /        |
| Front Side                      | standard   | 50%RB   | 50        | 40690/2600              | 23.00                      | 22.38                 | -0.038     | 0.204                             | 1.15           | 0.235                             | /        |
| Left Edge                       | standard   | 50%RB   | 50        | 40690/2600              | 23.00                      | 22.38                 | 0.024      | 0.086                             | 1.15           | 0.099                             | /        |
| Right Edge                      | standard   | 50%RB   | 50        | 40690/2600              | 23.00                      | 22.38                 | 0.022      | 0.112                             | 1.15           | 0.129                             | /        |
| Top Edge                        | N/A        | N/A     | N/A       | N/A                     | N/A                        | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Bottom Edge                     | standard   | 50%RB   | 50        | 40690/2600              | 23.00                      | 22.38                 | -0.030     | 0.338                             | 1.15           | 0.390                             | /        |
| Bottom Edge                     | SIM 2      | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | 0.022      | 0.351                             | 1.17           | 0.410                             | /        |
| Bottom Edge                     | Battery 2  | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | 0.008      | 0.364                             | 1.17           | 0.425                             | /        |
| Bottom Edge                     | Battery 3  | 1RB     | 99        | 41140/2645              | 24.00                      | 23.33                 | 0.061      | 0.360                             | 1.17           | 0.420                             | /        |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 15: GSM 850 (Antenna 2)

| Test Position                                                | Cover Type | Channel/Frequency (MHz) | Time slot | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|--------------------------------------------------------------|------------|-------------------------|-----------|------------|---------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head)</b>                    |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | standard   | 190/836.6               | GSM       | 1:8.3      | 29.50               | 28.47                 | -0.020     | 0.578                             | 1.27           | 0.733                             | /        |
| Left Tilt                                                    | standard   | 190/836.6               | GSM       | 1:8.3      | 29.50               | 28.47                 | 0.010      | 0.460                             | 1.27           | 0.583                             | /        |
| <b>Head SAR (Single=REC On+Right Head)</b>                   |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                                                  | standard   | 190/836.6               | GSM       | 1:8.3      | 29.00               | 27.96                 | 0.028      | 0.556                             | 1.27           | 0.706                             | /        |
| Right Tilt                                                   | standard   | 190/836.6               | GSM       | 1:8.3      | 29.00               | 27.96                 | 0.050      | 0.523                             | 1.27           | 0.665                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT)</b>      |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | standard   | 190/836.6               | GSM       | 1:8.3      | 26.50               | 25.54                 | 0.080      | 0.299                             | 1.25           | 0.373                             | /        |
| Left Tilt                                                    | standard   | 190/836.6               | GSM       | 1:8.3      | 26.50               | 25.54                 | 0.080      | 0.237                             | 1.25           | 0.296                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT)</b>     |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                                                  | standard   | 190/836.6               | GSM       | 1:8.3      | 26.00               | 25.06                 | 0.010      | 0.304                             | 1.24           | 0.377                             | /        |
| Right Tilt                                                   | standard   | 190/836.6               | GSM       | 1:8.3      | 26.00               | 25.06                 | -0.030     | 0.274                             | 1.24           | 0.340                             | /        |
| <b>Head SAR (For Worse Case)</b>                             |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | SIM 2      | 190/836.6               | GSM       | 1:8.3      | 29.50               | 28.47                 | -0.080     | 0.603                             | 1.27           | 0.764                             | /        |
| Left Cheek                                                   | Battery 2  | 251/848.8               | GSM       | 1:8.3      | 29.50               | 28.63                 | 0.030      | 0.625                             | 1.22           | 0.764                             | /        |
|                                                              |            | 190/836.6               | GSM       | 1:8.3      | 29.50               | 28.47                 | 0.020      | 0.632                             | 1.27           | 0.801                             | 81       |
|                                                              |            | 128/824.2               | GSM       | 1:8.3      | 29.50               | 28.24                 | -0.034     | 0.598                             | 1.34           | 0.799                             | /        |
| Left Cheek                                                   | Battery 3  | 190/836.6               | GSM       | 1:8.3      | 29.50               | 28.47                 | 0.020      | 0.609                             | 1.27           | 0.772                             | /        |
| <b>Body-worn (Single=REC Off, Distance 15mm)</b>             |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                                    | standard   | 190/836.6               | GSM       | 1:8.3      | 33.60               | 32.24                 | -0.030     | 0.182                             | 1.37           | 0.249                             | /        |
| Front Side                                                   | standard   | 190/836.6               | GSM       | 1:8.3      | 33.60               | 32.24                 | 0.160      | 0.184                             | 1.37           | 0.252                             | 82       |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)</b> |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                                    | standard   | 190/836.6               | 2Txslots  | 1:4.15     | 28.00               | 26.99                 | -0.060     | 0.235                             | 1.26           | 0.297                             | 83       |
| Front Side                                                   | standard   | 190/836.6               | 2Txslots  | 1:4.15     | 28.00               | 26.99                 | 0.050      | 0.231                             | 1.26           | 0.291                             | /        |
| Left Edge                                                    | standard   | 190/836.6               | 2Txslots  | 1:4.15     | 28.00               | 26.99                 | 0.070      | 0.107                             | 1.26           | 0.135                             | /        |
| Right Edge                                                   | standard   | 190/836.6               | 2Txslots  | 1:4.15     | 28.00               | 26.99                 | 0.120      | 0.027                             | 1.26           | 0.035                             | /        |
| Top Edge                                                     | standard   | 190/836.6               | 2Txslots  | 1:4.15     | 28.00               | 26.99                 | 0.036      | 0.177                             | 1.26           | 0.223                             | /        |
| Bottom Edge                                                  | N/A        | N/A                     | N/A       | N/A        | N/A                 | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                    | SIM 2      | 190/836.6               | 2Txslots  | 1:4.15     | 28.00               | 26.99                 | -0.010     | 0.228                             | 1.26           | 0.288                             | /        |
| Back Side                                                    | Battery 2  | 190/836.6               | 2Txslots  | 1:4.15     | 28.00               | 26.99                 | -0.020     | 0.210                             | 1.26           | 0.265                             | /        |
| Back Side                                                    | Battery 3  | 190/836.6               | 2Txslots  | 1:4.15     | 28.00               | 26.99                 | -0.050     | 0.233                             | 1.26           | 0.294                             | /        |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 16: GSM 1900 (Antenna 2)

| Test Position                                                | Cover Type | Channel/Frequency (MHz) | Time slot | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|--------------------------------------------------------------|------------|-------------------------|-----------|------------|---------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head)</b>                    |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | standard   | 661/1880                | GSM       | 1:8.3      | 30.00               | 29.36                 | -0.060     | 0.591                             | 1.16           | 0.685                             | /        |
| Left Tilt                                                    | standard   | 661/1880                | GSM       | 1:8.3      | 30.00               | 29.36                 | -0.070     | 0.407                             | 1.16           | 0.472                             | /        |
| <b>Head SAR (Single=REC On+Right Head)</b>                   |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                                                  | standard   | 661/1880                | GSM       | 1:8.3      | 26.50               | 25.86                 | 0.073      | 0.480                             | 1.16           | 0.556                             | /        |
| Right Tilt                                                   | standard   | 661/1880                | GSM       | 1:8.3      | 26.50               | 25.86                 | -0.040     | 0.380                             | 1.16           | 0.440                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT)</b>      |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | standard   | 661/1880                | GSM       | 1:8.3      | 27.00               | 25.89                 | -0.057     | 0.281                             | 1.29           | 0.363                             | /        |
| Left Tilt                                                    | standard   | 661/1880                | GSM       | 1:8.3      | 27.00               | 25.89                 | -0.030     | 0.202                             | 1.29           | 0.261                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT)</b>     |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                                                  | standard   | 661/1880                | GSM       | 1:8.3      | 23.50               | 22.78                 | 0.110      | 0.251                             | 1.18           | 0.296                             | /        |
| Right Tilt                                                   | standard   | 661/1880                | GSM       | 1:8.3      | 23.50               | 22.78                 | -0.080     | 0.190                             | 1.18           | 0.224                             | /        |
| <b>Head SAR (For Worse Case)</b>                             |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | SIM 2      | 661/1880                | GSM       | 1:8.3      | 30.00               | 29.36                 | 0.010      | 0.540                             | 1.16           | 0.626                             | /        |
| Left Cheek                                                   | Battery 2  | 661/1880                | GSM       | 1:8.3      | 30.00               | 29.36                 | -0.010     | 0.592                             | 1.16           | 0.686                             | 84       |
| Left Cheek                                                   | Battery 3  | 661/1880                | GSM       | 1:8.3      | 30.00               | 29.36                 | -0.030     | 0.580                             | 1.16           | 0.672                             | /        |
| <b>Body-worn (Single=REC Off, Distance 15mm)</b>             |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                                    | standard   | 661/1880                | GSM       | 1:8.3      | 31.00               | 30.64                 | 0.050      | 0.141                             | 1.09           | 0.153                             | /        |
| Front Side                                                   | standard   | 661/1880                | GSM       | 1:8.3      | 31.00               | 30.64                 | -0.062     | 0.142                             | 1.09           | 0.154                             | 85       |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)</b> |            |                         |           |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                                    | standard   | 661/1880                | 2Txslots  | 1:4.15     | 25.50               | 24.79                 | 0.080      | 0.172                             | 1.18           | 0.203                             | 86       |
| Front Side                                                   | standard   | 661/1880                | 2Txslots  | 1:4.15     | 25.50               | 24.79                 | 0.170      | 0.157                             | 1.18           | 0.185                             | /        |
| Left Edge                                                    | standard   | 661/1880                | 2Txslots  | 1:4.15     | 25.50               | 24.79                 | -0.118     | 0.084                             | 1.18           | 0.099                             | /        |
| Right Edge                                                   | standard   | 661/1880                | 2Txslots  | 1:4.15     | 25.50               | 24.79                 | -0.108     | 0.015                             | 1.18           | 0.017                             | /        |
| Top Edge                                                     | standard   | 661/1880                | 2Txslots  | 1:4.15     | 25.50               | 24.79                 | 0.000      | 0.122                             | 1.18           | 0.144                             | /        |
| Bottom Edge                                                  | N/A        | N/A                     | N/A       | N/A        | N/A                 | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                    | SIM 2      | 661/1880                | 2Txslots  | 1:4.15     | 25.50               | 24.79                 | 0.017      | 0.170                             | 1.18           | 0.200                             | /        |
| Back Side                                                    | Battery 2  | 661/1880                | 2Txslots  | 1:4.15     | 25.50               | 24.79                 | 0.004      | 0.164                             | 1.18           | 0.193                             | /        |
| Back Side                                                    | Battery 3  | 661/1880                | 2Txslots  | 1:4.15     | 25.50               | 24.79                 | 0.065      | 0.159                             | 1.18           | 0.187                             | /        |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. When multiple slots are used, SAR should be tested to account for the maximum source-based time-averaged output power.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 17: UMTS Band II (Antenna 2)

| Test Position                                                | Cover Type | Channel/Frequency (MHz) | Channel Type | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|--------------------------------------------------------------|------------|-------------------------|--------------|------------|---------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head)</b>                    |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 19.50               | 18.72                 | -0.060     | 0.560                             | 1.20           | 0.670                             | 87       |
| Left Tilt                                                    | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 19.50               | 18.72                 | -0.020     | 0.422                             | 1.20           | 0.505                             | /        |
| <b>Head SAR (Single=REC On+Right Head)</b>                   |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                                                  | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 17.00               | 15.84                 | 0.027      | 0.406                             | 1.31           | 0.530                             | /        |
| Right Tilt                                                   | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 17.00               | 15.84                 | 0.150      | 0.332                             | 1.31           | 0.434                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT)</b>      |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 16.50               | 14.81                 | 0.028      | 0.235                             | 1.48           | 0.347                             | /        |
| Left Tilt                                                    | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 16.50               | 14.81                 | -0.050     | 0.193                             | 1.48           | 0.285                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT)</b>     |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                                                  | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 14.00               | 12.51                 | -0.060     | 0.224                             | 1.41           | 0.316                             | /        |
| Right Tilt                                                   | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 14.00               | 12.51                 | 0.190      | 0.180                             | 1.41           | 0.254                             | /        |
| <b>Head SAR (For Worse Case)</b>                             |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | SIM 2      | 9400/1880               | RMC 12.2K    | 1:1        | 19.50               | 18.72                 | 0.006      | 0.549                             | 1.20           | 0.657                             | /        |
| Left Cheek                                                   | Battery 2  | 9400/1880               | RMC 12.2K    | 1:1        | 19.50               | 18.72                 | 0.031      | 0.530                             | 1.20           | 0.634                             | /        |
| Left Cheek                                                   | Battery 3  | 9400/1880               | RMC 12.2K    | 1:1        | 19.50               | 18.72                 | 0.094      | 0.542                             | 1.20           | 0.649                             | /        |
| <b>Body-worn (Single=REC Off, Distance 15mm)</b>             |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                                    | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 22.50               | 21.71                 | 0.100      | 0.253                             | 1.20           | 0.303                             | 88       |
| Front Side                                                   | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 22.50               | 21.71                 | -0.070     | 0.207                             | 1.20           | 0.248                             | /        |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)</b> |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                                    | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 21.50               | 20.70                 | 0.050      | 0.227                             | 1.20           | 0.273                             | /        |
| Front Side                                                   | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 21.50               | 20.70                 | -0.032     | 0.230                             | 1.20           | 0.277                             | 89       |
| Left Edge                                                    | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 21.50               | 20.70                 | -0.022     | 0.130                             | 1.20           | 0.156                             | /        |
| Right Edge                                                   | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 21.50               | 20.70                 | -0.103     | 0.017                             | 1.20           | 0.021                             | /        |
| Top Edge                                                     | standard   | 9400/1880               | RMC 12.2K    | 1:1        | 21.50               | 20.70                 | 0.040      | 0.189                             | 1.20           | 0.227                             | /        |
| Bottom Edge                                                  | N/A        | N/A                     | N/A          | N/A        | N/A                 | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Front Side                                                   | SIM 2      | 9400/1880               | RMC 12.2K    | 1:1        | 21.50               | 20.70                 | 0.015      | 0.213                             | 1.20           | 0.256                             | /        |
| Front Side                                                   | Battery 2  | 9400/1880               | RMC 12.2K    | 1:1        | 21.50               | 20.70                 | 0.020      | 0.228                             | 1.20           | 0.274                             | /        |
| Front Side                                                   | Battery 3  | 9400/1880               | RMC 12.2K    | 1:1        | 21.50               | 20.70                 | 0.009      | 0.224                             | 1.20           | 0.269                             | /        |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 18: UMTS Band IV (Antenna 2)

| Test Position                                                | Cover Type | Channel/Frequency (MHz) | Channel Type | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|--------------------------------------------------------------|------------|-------------------------|--------------|------------|---------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head)</b>                    |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 20.50               | 20.13                 | -0.058     | 0.541                             | 1.09           | 0.589                             | /        |
| Left Tilt                                                    | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 20.50               | 20.13                 | -0.030     | 0.483                             | 1.09           | 0.526                             | /        |
| <b>Head SAR (Single=REC On+Right Head)</b>                   |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                                                  | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 17.50               | 17.07                 | 0.158      | 0.564                             | 1.10           | 0.623                             | /        |
| Right Tilt                                                   | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 17.50               | 17.07                 | 0.083      | 0.505                             | 1.10           | 0.558                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT)</b>      |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 17.50               | 17.14                 | -0.120     | 0.281                             | 1.09           | 0.305                             | /        |
| Left Tilt                                                    | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 17.50               | 17.14                 | 0.143      | 0.269                             | 1.09           | 0.292                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT)</b>     |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                                                  | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 15.00               | 14.81                 | 0.100      | 0.404                             | 1.04           | 0.422                             | /        |
| Right Tilt                                                   | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 15.00               | 14.81                 | 0.020      | 0.365                             | 1.04           | 0.381                             | /        |
| <b>Head SAR (For Worse Case)</b>                             |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                                                  | SIM 2      | 1413/1732.6             | RMC 12.2K    | 1:1        | 17.50               | 17.07                 | 0.082      | 0.533                             | 1.10           | 0.588                             | /        |
| Right Cheek                                                  | Battery 2  | 1413/1732.6             | RMC 12.2K    | 1:1        | 17.50               | 17.07                 | 0.030      | 0.598                             | 1.10           | 0.660                             | /        |
| Right Cheek                                                  | Battery 3  | 1413/1732.6             | RMC 12.2K    | 1:1        | 17.50               | 17.07                 | 0.030      | 0.612                             | 1.10           | 0.676                             | 90       |
| <b>Body-worn (Single=REC Off, Distance 15mm)</b>             |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                                    | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 24.03                 | 0.070      | 0.292                             | 1.11           | 0.325                             | 91       |
| Front Side                                                   | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 24.50               | 24.03                 | 0.080      | 0.195                             | 1.11           | 0.217                             | /        |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)</b> |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                                    | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 21.50               | 21.11                 | 0.021      | 0.332                             | 1.09           | 0.363                             | 92       |
| Front Side                                                   | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 21.50               | 21.11                 | 0.090      | 0.241                             | 1.09           | 0.264                             | /        |
| Left Edge                                                    | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 21.50               | 21.11                 | 0.060      | 0.183                             | 1.09           | 0.200                             | /        |
| Right Edge                                                   | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 21.50               | 21.11                 | 0.071      | 0.028                             | 1.09           | 0.031                             | /        |
| Top Edge                                                     | standard   | 1413/1732.6             | RMC 12.2K    | 1:1        | 21.50               | 21.11                 | 0.010      | 0.169                             | 1.09           | 0.185                             | /        |
| Bottom Edge                                                  | N/A        | N/A                     | N/A          | N/A        | N/A                 | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                    | SIM 2      | 1413/1732.6             | RMC 12.2K    | 1:1        | 21.50               | 21.11                 | 0.060      | 0.318                             | 1.09           | 0.348                             | /        |
| Back Side                                                    | Battery 2  | 1413/1732.6             | RMC 12.2K    | 1:1        | 21.50               | 21.11                 | 0.090      | 0.309                             | 1.09           | 0.338                             | /        |
| Back Side                                                    | Battery 3  | 1413/1732.6             | RMC 12.2K    | 1:1        | 21.50               | 21.11                 | 0.160      | 0.331                             | 1.09           | 0.362                             | /        |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.





Table 19: UMTS Band V (Antenna 2)

| Test Position                                                | Cover Type | Channel/Frequency (MHz) | Channel Type | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|--------------------------------------------------------------|------------|-------------------------|--------------|------------|---------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head)</b>                    |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 20.50               | 19.53                 | 0.041      | 0.623                             | 1.25           | 0.779                             | /        |
| Left Tilt                                                    | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 20.50               | 19.53                 | 0.110      | 0.508                             | 1.25           | 0.635                             | /        |
| <b>Head SAR (Single=REC On+Right Head)</b>                   |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                                                  | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 20.00               | 19.07                 | 0.044      | 0.601                             | 1.24           | 0.745                             | /        |
| Right Tilt                                                   | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 20.00               | 19.07                 | 0.070      | 0.550                             | 1.24           | 0.681                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT)</b>      |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 17.50               | 16.62                 | 0.078      | 0.316                             | 1.22           | 0.387                             | /        |
| Left Tilt                                                    | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 17.50               | 16.62                 | -0.020     | 0.257                             | 1.22           | 0.315                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT)</b>     |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Right Cheek                                                  | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 17.00               | 16.08                 | -0.080     | 0.296                             | 1.24           | 0.366                             | /        |
| Right Tilt                                                   | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 17.00               | 16.08                 | 0.050      | 0.270                             | 1.24           | 0.334                             | /        |
| <b>Head SAR (For Worse Case)</b>                             |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                   | SIM 2      | 4183/836.6              | RMC 12.2K    | 1:1        | 20.50               | 19.53                 | 0.020      | 0.643                             | 1.25           | 0.804                             | /        |
| Left Cheek                                                   | Battery 2  | 4233/846.6              | RMC 12.2K    | 1:1        | 20.50               | 19.56                 | 0.060      | 0.527                             | 1.24           | 0.654                             | /        |
|                                                              |            | 4183/836.6              | RMC 12.2K    | 1:1        | 20.50               | 19.53                 | 0.000      | 0.669                             | 1.25           | 0.836                             | 93       |
|                                                              |            | 4132/826.4              | RMC 12.2K    | 1:1        | 20.50               | 19.48                 | 0.030      | 0.535                             | 1.26           | 0.677                             | /        |
| Left Cheek                                                   | Battery 3  | 4183/836.6              | RMC 12.2K    | 1:1        | 20.50               | 19.53                 | 0.010      | 0.649                             | 1.25           | 0.811                             | /        |
| <b>Body-worn (Single=REC Off, Distance 15mm)</b>             |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                                    | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.00               | 23.12                 | -0.020     | 0.231                             | 1.22           | 0.283                             | /        |
| Front Side                                                   | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 24.00               | 23.12                 | 0.110      | 0.257                             | 1.22           | 0.315                             | 94       |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)</b> |            |                         |              |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                                    | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 21.00               | 20.09                 | -0.070     | 0.192                             | 1.23           | 0.237                             | /        |
| Front Side                                                   | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 21.00               | 20.09                 | 0.022      | 0.229                             | 1.23           | 0.282                             | 95       |
| Left Edge                                                    | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 21.00               | 20.09                 | 0.060      | 0.097                             | 1.23           | 0.120                             | /        |
| Right Edge                                                   | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 21.00               | 20.09                 | 0.020      | 0.026                             | 1.23           | 0.032                             | /        |
| Top Edge                                                     | standard   | 4183/836.6              | RMC 12.2K    | 1:1        | 21.00               | 20.09                 | 0.026      | 0.015                             | 1.23           | 0.018                             | /        |
| Bottom Edge                                                  | N/A        | N/A                     | N/A          | N/A        | N/A                 | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Front Side                                                   | SIM 2      | 4183/836.6              | RMC 12.2K    | 1:1        | 21.00               | 20.09                 | 0.017      | 0.224                             | 1.23           | 0.276                             | /        |
| Front Side                                                   | Battery 2  | 4183/836.6              | RMC 12.2K    | 1:1        | 21.00               | 20.09                 | 0.009      | 0.218                             | 1.23           | 0.269                             | /        |
| Front Side                                                   | Battery 3  | 4183/836.6              | RMC 12.2K    | 1:1        | 21.00               | 20.09                 | 0.062      | 0.223                             | 1.23           | 0.275                             | /        |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.





Table 20: LTE Band 2 (20MHz, Antenna 2)

| Test Position                                                  | Cover Type | RB size | RB offset | Channel/ Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|----------------------------------------------------------------|------------|---------|-----------|--------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head, QPSK)</b>                |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                     | standard   | 1RB     | 0         | 19100/1900               | 20.00                       | 19.62                 | -0.160     | 0.843                             | 1.09           | 0.920                             | /        |
|                                                                |            | 1RB     | 0         | 18900/1880               | 20.00                       | 19.61                 | 0.040      | 0.764                             | 1.09           | 0.836                             | /        |
|                                                                |            | 1RB     | 0         | 18700/1860               | 20.00                       | 19.56                 | 0.140      | 0.775                             | 1.11           | 0.858                             | /        |
| Left Tilt                                                      | standard   | 1RB     | 0         | 19100/1900               | 20.00                       | 19.62                 | -0.070     | 0.679                             | 1.09           | 0.741                             | /        |
| Left Cheek                                                     | standard   | 50%RB   | 0         | 19100/1900               | 20.00                       | 19.59                 | 0.010      | 0.764                             | 1.10           | 0.840                             | /        |
|                                                                |            | 50%RB   | 50        | 18900/1880               | 20.00                       | 19.45                 | 0.016      | 0.705                             | 1.14           | 0.800                             | /        |
|                                                                |            | 50%RB   | 50        | 18700/1860               | 20.00                       | 19.47                 | 0.008      | 0.679                             | 1.13           | 0.767                             | /        |
| Left Tilt                                                      | standard   | 50%RB   | 0         | 19100/1900               | 20.00                       | 19.59                 | -0.010     | 0.672                             | 1.10           | 0.739                             | /        |
| Left Cheek                                                     | standard   | 100%RB  | 0         | 18900/1880               | 20.00                       | 19.56                 | -0.080     | 0.693                             | 1.11           | 0.767                             | /        |
| <b>Head SAR (Single=REC On+Right Head, QPSK)</b>               |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                    | standard   | 1RB     | 99        | 18700/1860               | 17.50                       | 17.06                 | -0.030     | 0.539                             | 1.11           | 0.596                             | /        |
| Right Tilt                                                     | standard   | 1RB     | 99        | 18700/1860               | 17.50                       | 17.06                 | -0.040     | 0.503                             | 1.11           | 0.557                             | /        |
| Right Cheek                                                    | standard   | 50%RB   | 25        | 19100/1900               | 17.50                       | 17.01                 | 0.160      | 0.535                             | 1.12           | 0.599                             | /        |
| Right Tilt                                                     | standard   | 50%RB   | 25        | 19100/1900               | 17.50                       | 17.01                 | 0.040      | 0.514                             | 1.12           | 0.575                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>  |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                     | standard   | 1RB     | 99        | 19100/1900               | 17.45                       | 16.72                 | -0.010     | 0.330                             | 1.18           | 0.390                             | /        |
| Left Tilt                                                      | standard   | 1RB     | 99        | 19100/1900               | 17.45                       | 16.72                 | -0.010     | 0.311                             | 1.18           | 0.368                             | /        |
| Left Cheek                                                     | standard   | 50%RB   | 25        | 19100/1900               | 17.45                       | 16.75                 | -0.160     | 0.315                             | 1.17           | 0.370                             | /        |
| Left Tilt                                                      | standard   | 50%RB   | 25        | 19100/1900               | 17.45                       | 16.75                 | 0.020      | 0.273                             | 1.17           | 0.321                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b> |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                    | standard   | 1RB     | 99        | 19100/1900               | 14.00                       | 13.82                 | 0.005      | 0.270                             | 1.04           | 0.281                             | /        |
| Right Tilt                                                     | standard   | 1RB     | 99        | 19100/1900               | 14.00                       | 13.82                 | 0.019      | 0.252                             | 1.04           | 0.262                             | /        |
| Right Cheek                                                    | standard   | 50%RB   | 0         | 18900/1880               | 14.00                       | 13.79                 | 0.030      | 0.268                             | 1.05           | 0.281                             | /        |
| Right Tilt                                                     | standard   | 50%RB   | 0         | 18900/1880               | 14.00                       | 13.79                 | 0.006      | 0.257                             | 1.05           | 0.270                             | /        |
| <b>Head SAR (For Worse Case)</b>                               |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                     | SIM 2      | 1RB     | 0         | 19100/1900               | 20.00                       | 19.62                 | 0.050      | 0.736                             | 1.09           | 0.803                             | /        |
| Left Cheek                                                     | Battery 2  | 1RB     | 0         | 19100/1900               | 20.00                       | 19.62                 | 0.000      | 0.801                             | 1.09           | 0.874                             | /        |
| Left Cheek                                                     | Battery 3  | 1RB     | 0         | 19100/1900               | 20.00                       | 19.62                 | -0.030     | 0.851                             | 1.09           | 0.929                             | 96       |
| Left Cheek                                                     | Repeated   | 1RB     | 0         | 19100/1900               | 20.00                       | 19.62                 | 0.018      | 0.840                             | 1.09           | 0.917                             | /        |
| <b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>         |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                      | standard   | 1RB     | 0         | 18900/1880               | 22.50                       | 22.07                 | 0.000      | 0.206                             | 1.10           | 0.227                             | /        |
| Front Side                                                     | standard   | 1RB     | 0         | 18900/1880               | 22.50                       | 22.07                 | 0.060      | 0.210                             | 1.10           | 0.232                             | /        |
| Back Side                                                      | standard   | 50%RB   | 0         | 19100/1900               | 22.50                       | 22.01                 | -0.130     | 0.212                             | 1.12           | 0.237                             | 97       |
| Front Side                                                     | standard   | 50%RB   | 0         | 19100/1900               | 22.50                       | 22.01                 | -0.070     | 0.192                             | 1.12           | 0.215                             | /        |



| Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm) |           |       |     |            |       |       |        |       |      |       |     |
|-------------------------------------------------------------|-----------|-------|-----|------------|-------|-------|--------|-------|------|-------|-----|
| Back Side                                                   | standard  | 1RB   | 0   | 18900/1880 | 19.50 | 19.01 | -0.140 | 0.268 | 1.12 | 0.300 | 98  |
| Front Side                                                  | standard  | 1RB   | 0   | 18900/1880 | 19.50 | 19.01 | 0.023  | 0.252 | 1.12 | 0.282 | /   |
| Left Edge                                                   | standard  | 1RB   | 0   | 18900/1880 | 19.50 | 19.01 | 0.110  | 0.155 | 1.12 | 0.174 | /   |
| Right Edge                                                  | standard  | 1RB   | 0   | 18900/1880 | 19.50 | 19.01 | 0.100  | 0.039 | 1.12 | 0.044 | /   |
| Top Edge                                                    | standard  | 1RB   | 0   | 18900/1880 | 19.50 | 19.01 | 0.024  | 0.240 | 1.12 | 0.269 | /   |
| Bottom Edge                                                 | N/A       | N/A   | N/A | N/A        | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Back Side                                                   | standard  | 50%RB | 0   | 19100/1900 | 19.50 | 18.95 | 0.130  | 0.266 | 1.14 | 0.302 | /   |
| Front Side                                                  | standard  | 50%RB | 0   | 19100/1900 | 19.50 | 18.95 | -0.010 | 0.199 | 1.14 | 0.226 | /   |
| Left Edge                                                   | standard  | 50%RB | 0   | 19100/1900 | 19.50 | 18.95 | 0.144  | 0.026 | 1.14 | 0.030 | /   |
| Right Edge                                                  | standard  | 50%RB | 0   | 19100/1900 | 19.50 | 18.95 | 0.061  | 0.021 | 1.14 | 0.024 | /   |
| Top Edge                                                    | standard  | 50%RB | 0   | 19100/1900 | 19.50 | 18.95 | 0.050  | 0.143 | 1.14 | 0.162 | /   |
| Bottom Edge                                                 | N/A       | N/A   | N/A | N/A        | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Back Side                                                   | SIM 2     | 1RB   | 0   | 18900/1880 | 19.50 | 19.01 | 0.120  | 0.216 | 1.12 | 0.242 | /   |
| Back Side                                                   | Battery 2 | 1RB   | 0   | 18900/1880 | 19.50 | 19.01 | -0.050 | 0.218 | 1.12 | 0.244 | /   |
| Back Side                                                   | Battery 3 | 1RB   | 0   | 18900/1880 | 19.50 | 19.01 | -0.140 | 0.236 | 1.12 | 0.264 | /   |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 0.8$  W/kg.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.

#### Measurement Variability

| Test Position | Channel/<br>Frequency(MHz) | MAX Measured SAR <sub>1g</sub><br>(W/kg) | 1 <sup>st</sup> Repeated SAR <sub>1g</sub><br>(W/kg) | Ratio |
|---------------|----------------------------|------------------------------------------|------------------------------------------------------|-------|
| Left Cheek    | 19100/1900                 | 0.851                                    | 0.840                                                | 1.01  |

Note: 1) When the original highest measured SAR<sub>1g</sub> is  $\geq 0.80$  W/kg or SAR<sub>10g</sub> is  $\geq 2.0$  W/kg, the measurement was repeated once.

2) A second repeated measurement was performed only if the ratio of largest to smallest SAR for the original and first repeated measurements was  $> 1.20$ .



Table 21: LTE Band 4 (20MHz, Antenna 2)

| Test Position                                                      | Cover Type | RB size | RB offset | Channel/Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|--------------------------------------------------------------------|------------|---------|-----------|-------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head, QPSK)</b>                    |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 0         | 20050/1720              | 20.50                       | 19.77                 | 0.080      | 0.511                             | 1.18           | 0.605                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 0         | 20050/1720              | 20.50                       | 19.77                 | -0.050     | 0.405                             | 1.18           | 0.479                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 25        | 20050/1720              | 20.50                       | 19.65                 | -0.010     | 0.533                             | 1.22           | 0.648                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 25        | 20050/1720              | 20.50                       | 19.65                 | -0.110     | 0.430                             | 1.22           | 0.523                             | /        |
| <b>Head SAR (Single=REC On+Right Head, QPSK)</b>                   |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 0         | 20050/1720              | 18.00                       | 17.33                 | 0.040      | 0.510                             | 1.17           | 0.595                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 0         | 20050/1720              | 18.00                       | 17.33                 | 0.090      | 0.456                             | 1.17           | 0.532                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 25        | 20050/1720              | 18.00                       | 17.22                 | 0.090      | 0.531                             | 1.20           | 0.635                             | /        |
| Right Tilt                                                         | standard   | 50%RB   | 25        | 20050/1720              | 18.00                       | 17.22                 | 0.074      | 0.483                             | 1.20           | 0.578                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>      |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 0         | 20050/1720              | 17.50                       | 16.82                 | 0.050      | 0.171                             | 1.17           | 0.200                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 0         | 20050/1720              | 17.50                       | 16.82                 | 0.040      | 0.154                             | 1.17           | 0.180                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 25        | 20050/1720              | 17.50                       | 16.65                 | 0.010      | 0.181                             | 1.22           | 0.220                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 25        | 20050/1720              | 17.50                       | 16.65                 | 0.090      | 0.161                             | 1.22           | 0.196                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>     |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 0         | 20050/1720              | 15.50                       | 15.17                 | 0.060      | 0.259                             | 1.08           | 0.279                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 0         | 20050/1720              | 15.50                       | 15.17                 | 0.190      | 0.222                             | 1.08           | 0.240                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 25        | 20050/1720              | 15.50                       | 15.09                 | -0.040     | 0.335                             | 1.10           | 0.368                             | /        |
| Right Tilt                                                         | standard   | 50%RB   | 25        | 20050/1720              | 15.50                       | 15.09                 | 0.070      | 0.273                             | 1.10           | 0.300                             | /        |
| <b>Head SAR (For Worse Case)</b>                                   |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | SIM 2      | 50%RB   | 25        | 20050/1720              | 20.50                       | 19.65                 | -0.175     | 0.420                             | 1.22           | 0.511                             | /        |
| Left Cheek                                                         | Battery 2  | 50%RB   | 25        | 20050/1720              | 20.50                       | 19.65                 | -0.027     | 0.474                             | 1.22           | 0.576                             | /        |
| Left Cheek                                                         | Battery 3  | 50%RB   | 25        | 20050/1720              | 20.50                       | 19.65                 | -0.021     | 0.539                             | 1.22           | 0.656                             | 99       |
| <b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>             |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 0         | 20050/1720              | 23.80                       | 23.22                 | 0.070      | 0.167                             | 1.14           | 0.191                             | /        |
| Front Side                                                         | standard   | 1RB     | 0         | 20050/1720              | 23.80                       | 23.22                 | 0.022      | 0.112                             | 1.14           | 0.128                             | /        |
| Back Side                                                          | standard   | 50%RB   | 25        | 20050/1720              | 23.80                       | 23.18                 | 0.130      | 0.180                             | 1.15           | 0.208                             | 100      |
| Front Side                                                         | standard   | 50%RB   | 25        | 20050/1720              | 23.80                       | 23.18                 | 0.033      | 0.114                             | 1.15           | 0.131                             | /        |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b> |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 0         | 20050/1720              | 21.00                       | 20.29                 | 0.028      | 0.197                             | 1.18           | 0.232                             | /        |
| Front Side                                                         | standard   | 1RB     | 0         | 20050/1720              | 21.00                       | 20.29                 | 0.020      | 0.182                             | 1.18           | 0.214                             | /        |
| Left Edge                                                          | standard   | 1RB     | 0         | 20050/1720              | 21.00                       | 20.29                 | 0.030      | 0.114                             | 1.18           | 0.134                             | /        |
| Right Edge                                                         | standard   | 1RB     | 0         | 20050/1720              | 21.00                       | 20.29                 | 0.046      | 0.022                             | 1.18           | 0.026                             | /        |
| Top Edge                                                           | standard   | 1RB     | 0         | 20050/1720              | 21.00                       | 20.29                 | 0.040      | 0.087                             | 1.18           | 0.103                             | /        |



|             |           |       |     |            |       |       |       |       |      |       |     |
|-------------|-----------|-------|-----|------------|-------|-------|-------|-------|------|-------|-----|
| Bottom Edge | N/A       | N/A   | N/A | N/A        | N/A   | N/A   | N/A   | N/A   | N/A  | N/A   | N/A |
| Back Side   | standard  | 50%RB | 25  | 20050/1720 | 21.00 | 20.18 | 0.060 | 0.209 | 1.21 | 0.252 | 101 |
| Front Side  | standard  | 50%RB | 25  | 20050/1720 | 21.00 | 20.18 | 0.025 | 0.193 | 1.21 | 0.233 | /   |
| Left Edge   | standard  | 50%RB | 25  | 20050/1720 | 21.00 | 20.18 | 0.042 | 0.124 | 1.21 | 0.150 | /   |
| Right Edge  | standard  | 50%RB | 25  | 20050/1720 | 21.00 | 20.18 | 0.105 | 0.023 | 1.21 | 0.028 | /   |
| Top Edge    | standard  | 50%RB | 25  | 20050/1720 | 21.00 | 20.18 | 0.120 | 0.099 | 1.21 | 0.120 | /   |
| Bottom Edge | N/A       | N/A   | N/A | N/A        | N/A   | N/A   | N/A   | N/A   | N/A  | N/A   | N/A |
| Back Side   | SIM 2     | 50%RB | 25  | 20050/1720 | 21.00 | 20.18 | 0.005 | 0.197 | 1.21 | 0.238 | /   |
| Back Side   | Battery 2 | 50%RB | 25  | 20050/1720 | 21.00 | 20.18 | 0.027 | 0.205 | 1.21 | 0.248 | /   |
| Back Side   | Battery 3 | 50%RB | 25  | 20050/1720 | 21.00 | 20.18 | 0.106 | 0.201 | 1.21 | 0.243 | /   |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 22: LTE Band 5 (10MHz, Antenna 2)

| Test Position                                                      | Cover Type | RB size | RB offset | Channel/Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|--------------------------------------------------------------------|------------|---------|-----------|-------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head, QPSK)</b>                    |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 49        | 20600/844               | 20.50                       | 19.92                 | 0.107      | 0.587                             | 1.14           | 0.671                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 49        | 20600/844               | 20.50                       | 19.92                 | -0.100     | 0.513                             | 1.14           | 0.586                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 13        | 20600/844               | 20.50                       | 19.87                 | 0.000      | 0.597                             | 1.16           | 0.690                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 13        | 20600/844               | 20.50                       | 19.87                 | 0.020      | 0.521                             | 1.16           | 0.602                             | /        |
| <b>Head SAR (Single=REC On+Right Head, QPSK)</b>                   |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 49        | 20600/844               | 20.00                       | 19.39                 | 0.080      | 0.610                             | 1.15           | 0.702                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 49        | 20600/844               | 20.00                       | 19.39                 | -0.180     | 0.578                             | 1.15           | 0.665                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 13        | 20600/844               | 20.00                       | 19.36                 | 0.020      | 0.643                             | 1.16           | 0.745                             | 102      |
| Right Tilt                                                         | standard   | 50%RB   | 13        | 20600/844               | 20.00                       | 19.36                 | -0.060     | 0.597                             | 1.16           | 0.692                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>      |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 49        | 20600/844               | 17.50                       | 16.88                 | 0.112      | 0.306                             | 1.15           | 0.353                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 49        | 20600/844               | 17.50                       | 16.88                 | -0.040     | 0.246                             | 1.15           | 0.284                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 13        | 20600/844               | 17.50                       | 16.85                 | -0.050     | 0.311                             | 1.16           | 0.361                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 13        | 20600/844               | 17.50                       | 16.85                 | 0.060      | 0.252                             | 1.16           | 0.293                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>     |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 49        | 20600/844               | 17.00                       | 16.36                 | 0.039      | 0.299                             | 1.16           | 0.346                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 49        | 20600/844               | 17.00                       | 16.36                 | 0.060      | 0.295                             | 1.16           | 0.342                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 13        | 20600/844               | 17.00                       | 16.30                 | 0.010      | 0.305                             | 1.17           | 0.358                             | /        |
| Right Tilt                                                         | standard   | 50%RB   | 13        | 20600/844               | 17.00                       | 16.30                 | 0.020      | 0.301                             | 1.17           | 0.354                             | /        |
| <b>Head SAR (For Worse Case)</b>                                   |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | SIM 2      | 50%RB   | 13        | 20600/844               | 20.00                       | 19.36                 | 0.030      | 0.550                             | 1.16           | 0.637                             | /        |
| Right Cheek                                                        | Battery 2  | 50%RB   | 13        | 20600/844               | 20.00                       | 19.36                 | -0.060     | 0.509                             | 1.16           | 0.590                             | /        |
| Right Cheek                                                        | Battery 3  | 50%RB   | 13        | 20600/844               | 20.00                       | 19.36                 | -0.020     | 0.541                             | 1.16           | 0.627                             | /        |
| <b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>             |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 49        | 20600/844               | 23.50                       | 22.92                 | -0.060     | 0.203                             | 1.14           | 0.232                             | /        |
| Front Side                                                         | standard   | 1RB     | 49        | 20600/844               | 23.50                       | 22.92                 | 0.040      | 0.225                             | 1.14           | 0.257                             | 103      |
| Back Side                                                          | standard   | 50%RB   | 13        | 20600/844               | 22.50                       | 21.91                 | 0.000      | 0.167                             | 1.15           | 0.191                             | /        |
| Front Side                                                         | standard   | 50%RB   | 13        | 20600/844               | 22.50                       | 21.91                 | 0.070      | 0.181                             | 1.15           | 0.207                             | /        |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b> |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 49        | 20600/844               | 20.50                       | 19.87                 | -0.070     | 0.180                             | 1.16           | 0.208                             | /        |
| Front Side                                                         | standard   | 1RB     | 49        | 20600/844               | 20.50                       | 19.87                 | 0.030      | 0.219                             | 1.16           | 0.253                             | 104      |
| Left Edge                                                          | standard   | 1RB     | 49        | 20600/844               | 20.50                       | 19.87                 | -0.070     | 0.102                             | 1.16           | 0.118                             | /        |
| Right Edge                                                         | standard   | 1RB     | 49        | 20600/844               | 20.50                       | 19.87                 | 0.026      | 0.022                             | 1.16           | 0.025                             | /        |
| Top Edge                                                           | standard   | 1RB     | 49        | 20600/844               | 20.50                       | 19.87                 | -0.050     | 0.140                             | 1.16           | 0.162                             | /        |
| Bottom Edge                                                        | N/A        | N/A     | N/A       | N/A                     | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                          | standard   | 50%RB   | 13        | 20600/844               | 20.50                       | 19.86                 | 0.020      | 0.188                             | 1.16           | 0.218                             | /        |
| Front Side                                                         | standard   | 50%RB   | 13        | 20600/844               | 20.50                       | 19.86                 | 0.110      | 0.217                             | 1.16           | 0.251                             | /        |



|             |           |       |     |           |       |       |        |       |      |       |     |
|-------------|-----------|-------|-----|-----------|-------|-------|--------|-------|------|-------|-----|
| Left Edge   | standard  | 50%RB | 13  | 20600/844 | 20.50 | 19.86 | 0.010  | 0.101 | 1.16 | 0.117 | /   |
| Right Edge  | standard  | 50%RB | 13  | 20600/844 | 20.50 | 19.86 | -0.100 | 0.022 | 1.16 | 0.025 | /   |
| Top Edge    | standard  | 50%RB | 13  | 20600/844 | 20.50 | 19.86 | -0.080 | 0.138 | 1.16 | 0.160 | /   |
| Bottom Edge | N/A       | N/A   | N/A | N/A       | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Front Side  | SIM 2     | 1RB   | 49  | 20600/844 | 20.50 | 19.87 | 0.040  | 0.216 | 1.16 | 0.250 | /   |
| Front Side  | Battery 2 | 1RB   | 49  | 20600/844 | 20.50 | 19.87 | 0.086  | 0.205 | 1.16 | 0.237 | /   |
| Front Side  | Battery 3 | 1RB   | 49  | 20600/844 | 20.50 | 19.87 | 0.012  | 0.210 | 1.16 | 0.243 | /   |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is not required.



Table 23: LTE Band 7 (20MHz, Antenna 2)

| Test Position                                                      | Cover Type | RB size | RB offset | Channel/Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|--------------------------------------------------------------------|------------|---------|-----------|-------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head, QPSK)</b>                    |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 50        | 21350/2560              | 21.00                       | 20.49                 | -0.010     | 0.464                             | 1.12           | 0.522                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 50        | 21350/2560              | 21.00                       | 20.49                 | 0.060      | 0.557                             | 1.12           | 0.626                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 50        | 20850/2510              | 21.00                       | 20.50                 | -0.010     | 0.406                             | 1.12           | 0.456                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 50        | 20850/2510              | 21.00                       | 20.50                 | -0.010     | 0.464                             | 1.12           | 0.521                             | /        |
| <b>Head SAR (Single=REC On+Right Head, QPSK)</b>                   |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 50        | 21350/2560              | 16.00                       | 15.35                 | 0.117      | 0.348                             | 1.16           | 0.404                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 50        | 21350/2560              | 16.00                       | 15.35                 | 0.046      | 0.520                             | 1.16           | 0.604                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 50        | 20850/2510              | 16.00                       | 15.46                 | -0.040     | 0.636                             | 1.13           | 0.720                             | 105      |
| Right Tilt                                                         | standard   | 50%RB   | 50        | 20850/2510              | 16.00                       | 15.46                 | 0.050      | 0.410                             | 1.13           | 0.464                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>      |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 50        | 21350/2560              | 18.50                       | 17.81                 | 0.000      | 0.239                             | 1.17           | 0.280                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 50        | 21350/2560              | 18.50                       | 17.81                 | 0.027      | 0.206                             | 1.17           | 0.241                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 50        | 20850/2510              | 18.50                       | 17.44                 | 0.070      | 0.211                             | 1.28           | 0.269                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 50        | 20850/2510              | 18.50                       | 17.44                 | -0.040     | 0.199                             | 1.28           | 0.254                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>     |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 50        | 21350/2560              | 13.00                       | 12.30                 | 0.095      | 0.375                             | 1.17           | 0.441                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 50        | 21350/2560              | 13.00                       | 12.30                 | 0.080      | 0.293                             | 1.17           | 0.344                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 50        | 20850/2510              | 13.00                       | 12.32                 | 0.140      | 0.304                             | 1.17           | 0.356                             | /        |
| Right Tilt                                                         | standard   | 50%RB   | 50        | 20850/2510              | 13.00                       | 12.32                 | 0.150      | 0.203                             | 1.17           | 0.237                             | /        |
| <b>Head SAR (For Worse Case)</b>                                   |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Tilt                                                          | SIM 2      | 1RB     | 50        | 21350/2560              | 16.00                       | 15.46                 | 0.004      | 0.520                             | 1.13           | 0.589                             | /        |
| Left Tilt                                                          | Battery 2  | 1RB     | 50        | 21350/2560              | 16.00                       | 15.46                 | 0.028      | 0.530                             | 1.13           | 0.600                             | /        |
| Left Tilt                                                          | Battery 3  | 1RB     | 50        | 21350/2560              | 16.00                       | 15.46                 | 0.061      | 0.518                             | 1.13           | 0.587                             | /        |
| <b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>             |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 0         | 20850/2510              | 21.00                       | 20.47                 | -0.170     | 0.115                             | 1.13           | 0.130                             | /        |
| Front Side                                                         | standard   | 1RB     | 0         | 20850/2510              | 21.00                       | 20.47                 | -0.060     | 0.117                             | 1.13           | 0.132                             | 106      |
| Back Side                                                          | standard   | 50%RB   | 0         | 20850/2510              | 21.00                       | 20.41                 | -0.026     | 0.107                             | 1.15           | 0.123                             | /        |
| Front Side                                                         | standard   | 50%RB   | 0         | 20850/2510              | 21.00                       | 20.41                 | -0.189     | 0.079                             | 1.15           | 0.090                             | /        |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b> |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 0         | 20850/2510              | 18.00                       | 17.54                 | -0.098     | 0.122                             | 1.11           | 0.136                             | /        |
| Front Side                                                         | standard   | 1RB     | 0         | 20850/2510              | 18.00                       | 17.54                 | -0.163     | 0.087                             | 1.11           | 0.097                             | /        |
| Left Edge                                                          | standard   | 1RB     | 0         | 20850/2510              | 18.00                       | 17.54                 | 0.040      | 0.117                             | 1.11           | 0.130                             | /        |
| Right Edge                                                         | standard   | 1RB     | 0         | 20850/2510              | 18.00                       | 17.54                 | -0.035     | 0.004                             | 1.11           | 0.005                             | /        |
| Top Edge                                                           | standard   | 1RB     | 0         | 20850/2510              | 18.00                       | 17.54                 | 0.020      | 0.128                             | 1.11           | 0.142                             | /        |
| Bottom Edge                                                        | N/A        | N/A     | N/A       | N/A                     | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                          | standard   | 50%RB   | 0         | 20850/2510              | 18.00                       | 17.43                 | 0.163      | 0.110                             | 1.14           | 0.125                             | /        |
| Front Side                                                         | standard   | 50%RB   | 0         | 20850/2510              | 18.00                       | 17.43                 | -0.099     | 0.080                             | 1.14           | 0.092                             | /        |



|             |           |       |     |            |       |       |       |       |      |       |     |
|-------------|-----------|-------|-----|------------|-------|-------|-------|-------|------|-------|-----|
| Left Edge   | standard  | 50%RB | 0   | 20850/2510 | 18.00 | 17.43 | 0.029 | 0.113 | 1.14 | 0.129 | /   |
| Right Edge  | standard  | 50%RB | 0   | 20850/2510 | 18.00 | 17.43 | 0.000 | 0.001 | 1.14 | 0.001 | /   |
| Top Edge    | standard  | 50%RB | 0   | 20850/2510 | 18.00 | 17.43 | 0.080 | 0.131 | 1.14 | 0.149 | 107 |
| Bottom Edge | N/A       | N/A   | N/A | N/A        | N/A   | N/A   | N/A   | N/A   | N/A  | N/A   | N/A |
| Top Edge    | SIM 2     | 50%RB | 0   | 20850/2510 | 18.00 | 17.43 | 0.017 | 0.129 | 1.14 | 0.147 | /   |
| Top Edge    | Battery 2 | 50%RB | 0   | 20850/2510 | 18.00 | 17.43 | 0.008 | 0.124 | 1.14 | 0.141 | /   |
| Top Edge    | Battery 3 | 50%RB | 0   | 20850/2510 | 18.00 | 17.43 | 0.051 | 0.126 | 1.14 | 0.144 | /   |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.





Table 24: LTE Band 12 (20MHz, Antenna 2)

| Test Position                                                      | Cover Type | RB size | RB offset | Channel/Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|--------------------------------------------------------------------|------------|---------|-----------|-------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head, QPSK)</b>                    |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 0         | 23130/711               | 22.50                       | 22.01                 | -0.190     | 0.687                             | 1.12           | 0.769                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 0         | 23130/711               | 22.50                       | 22.01                 | 0.030      | 0.556                             | 1.12           | 0.622                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 13        | 23130/711               | 22.50                       | 21.94                 | 0.020      | 0.678                             | 1.14           | 0.771                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 13        | 23130/711               | 22.50                       | 21.94                 | 0.030      | 0.544                             | 1.14           | 0.619                             | /        |
| <b>Head SAR (Single=REC On+Right Head, QPSK)</b>                   |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 0         | 23130/711               | 22.50                       | 21.99                 | -0.010     | 0.539                             | 1.12           | 0.606                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 0         | 23130/711               | 22.50                       | 21.99                 | -0.010     | 0.688                             | 1.12           | 0.774                             | 108      |
| Right Cheek                                                        | standard   | 50%RB   | 13        | 23130/711               | 22.50                       | 21.94                 | 0.010      | 0.475                             | 1.14           | 0.540                             | /        |
| Right Tilt                                                         | standard   | 50%RB   | 13        | 23130/711               | 22.50                       | 21.94                 | 0.050      | 0.519                             | 1.14           | 0.590                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>      |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 0         | 23130/711               | 19.50                       | 19.04                 | 0.100      | 0.318                             | 1.11           | 0.354                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 0         | 23130/711               | 19.50                       | 19.04                 | 0.170      | 0.254                             | 1.11           | 0.282                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 13        | 23130/711               | 19.50                       | 18.96                 | 0.150      | 0.258                             | 1.13           | 0.292                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 13        | 23130/711               | 19.50                       | 18.96                 | 0.040      | 0.244                             | 1.13           | 0.276                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>     |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 0         | 23130/711               | 19.50                       | 18.93                 | 0.000      | 0.287                             | 1.14           | 0.327                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 0         | 23130/711               | 19.50                       | 18.93                 | -0.010     | 0.332                             | 1.14           | 0.379                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 13        | 23130/711               | 19.50                       | 18.89                 | 0.030      | 0.267                             | 1.15           | 0.307                             | /        |
| Right Tilt                                                         | standard   | 50%RB   | 13        | 23130/711               | 19.50                       | 18.89                 | -0.120     | 0.293                             | 1.15           | 0.337                             | /        |
| <b>Head SAR (For Worse Case)</b>                                   |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Tilt                                                         | SIM 2      | 1RB     | 0         | 23130/711               | 22.50                       | 21.99                 | 0.020      | 0.465                             | 1.12           | 0.523                             | /        |
| Right Tilt                                                         | Battery 2  | 1RB     | 0         | 23130/711               | 22.50                       | 21.99                 | 0.020      | 0.588                             | 1.12           | 0.661                             | /        |
| Right Tilt                                                         | Battery 3  | 1RB     | 0         | 23130/711               | 22.50                       | 21.99                 | -0.010     | 0.622                             | 1.12           | 0.700                             | /        |
| <b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>             |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 0         | 23130/711               | 23.50                       | 22.82                 | -0.010     | 0.166                             | 1.17           | 0.194                             | 109      |
| Front Side                                                         | standard   | 1RB     | 0         | 23130/711               | 23.50                       | 22.82                 | -0.030     | 0.161                             | 1.17           | 0.188                             | /        |
| Back Side                                                          | standard   | 50%RB   | 13        | 23130/711               | 22.50                       | 21.96                 | 0.040      | 0.136                             | 1.13           | 0.154                             | /        |
| Front Side                                                         | standard   | 50%RB   | 13        | 23130/711               | 22.50                       | 21.96                 | 0.030      | 0.103                             | 1.13           | 0.117                             | /        |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b> |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 0         | 23130/711               | 20.50                       | 20.01                 | 0.060      | 0.226                             | 1.12           | 0.253                             | 110      |
| Front Side                                                         | standard   | 1RB     | 0         | 23130/711               | 20.50                       | 20.01                 | 0.060      | 0.117                             | 1.12           | 0.131                             | /        |
| Left Edge                                                          | standard   | 1RB     | 0         | 23130/711               | 20.50                       | 20.01                 | 0.090      | 0.066                             | 1.12           | 0.074                             | /        |
| Right Edge                                                         | standard   | 1RB     | 0         | 23130/711               | 20.50                       | 20.01                 | -0.010     | 0.221                             | 1.12           | 0.247                             | /        |
| Top Edge                                                           | standard   | 1RB     | 0         | 23130/711               | 20.50                       | 20.01                 | 0.120      | 0.037                             | 1.12           | 0.042                             | /        |
| Bottom Edge                                                        | N/A        | N/A     | N/A       | N/A                     | N/A                         | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                          | standard   | 50%RB   | 13        | 23130/711               | 20.50                       | 19.96                 | 0.060      | 0.196                             | 1.13           | 0.222                             | /        |
| Front Side                                                         | standard   | 50%RB   | 13        | 23130/711               | 20.50                       | 19.96                 | 0.100      | 0.115                             | 1.13           | 0.130                             | /        |



|             |           |       |     |           |       |       |        |       |      |       |     |
|-------------|-----------|-------|-----|-----------|-------|-------|--------|-------|------|-------|-----|
| Left Edge   | standard  | 50%RB | 13  | 23130/711 | 20.50 | 19.96 | -0.080 | 0.052 | 1.13 | 0.059 | /   |
| Right Edge  | standard  | 50%RB | 13  | 23130/711 | 20.50 | 19.96 | -0.020 | 0.179 | 1.13 | 0.203 | /   |
| Top Edge    | standard  | 50%RB | 13  | 23130/711 | 20.50 | 19.96 | 0.110  | 0.031 | 1.13 | 0.035 | /   |
| Bottom Edge | N/A       | N/A   | N/A | N/A       | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Back Side   | SIM 2     | 1RB   | 0   | 23130/711 | 20.50 | 20.01 | -0.030 | 0.099 | 1.12 | 0.111 | /   |
| Back Side   | Battery 2 | 1RB   | 0   | 23130/711 | 20.50 | 20.01 | -0.010 | 0.096 | 1.12 | 0.107 | /   |
| Back Side   | Battery 3 | 1RB   | 0   | 23130/711 | 20.50 | 20.01 | 0.000  | 0.125 | 1.12 | 0.140 | /   |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 25: LTE Band 17 (10MHz, Antenna 2)

| Test Position                                                      | Cover Type | RB size | RB offset | Channel/ Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|--------------------------------------------------------------------|------------|---------|-----------|--------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head, QPSK)</b>                    |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 49        | 23780/709                | 22.50                       | 21.91                 | 0.024      | 0.683                             | 1.15           | 0.782                             | 111      |
| Left Tilt                                                          | standard   | 1RB     | 49        | 23780/709                | 22.50                       | 21.91                 | 0.030      | 0.595                             | 1.15           | 0.682                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 13        | 23800/711                | 22.50                       | 21.79                 | 0.010      | 0.605                             | 1.18           | 0.712                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 13        | 23800/711                | 22.50                       | 21.79                 | -0.010     | 0.572                             | 1.18           | 0.674                             | /        |
| <b>Head SAR (Single=REC On+Right Head, QPSK)</b>                   |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 49        | 23780/709                | 22.50                       | 21.91                 | -0.030     | 0.585                             | 1.15           | 0.670                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 49        | 23780/709                | 22.50                       | 21.91                 | 0.010      | 0.619                             | 1.15           | 0.709                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 13        | 23800/711                | 22.50                       | 21.80                 | -0.020     | 0.597                             | 1.17           | 0.701                             | /        |
| Right Tilt                                                         | standard   | 50%RB   | 13        | 23800/711                | 22.50                       | 21.80                 | -0.010     | 0.588                             | 1.17           | 0.691                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>      |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 49        | 23780/709                | 19.50                       | 19.03                 | 0.030      | 0.297                             | 1.11           | 0.331                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 49        | 23780/709                | 19.50                       | 19.03                 | 0.180      | 0.262                             | 1.11           | 0.292                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 13        | 23800/711                | 19.50                       | 18.85                 | 0.180      | 0.263                             | 1.16           | 0.305                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 13        | 23800/711                | 19.50                       | 18.85                 | 0.160      | 0.252                             | 1.16           | 0.293                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>     |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 49        | 23780/709                | 19.50                       | 19.12                 | -0.010     | 0.282                             | 1.09           | 0.308                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 49        | 23780/709                | 19.50                       | 19.12                 | 0.010      | 0.306                             | 1.09           | 0.334                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 13        | 23800/711                | 19.50                       | 18.96                 | 0.000      | 0.267                             | 1.13           | 0.302                             | /        |
| Right Tilt                                                         | standard   | 50%RB   | 13        | 23800/711                | 19.50                       | 18.96                 | -0.010     | 0.279                             | 1.13           | 0.316                             | /        |
| <b>Head SAR (For Worse Case)</b>                                   |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | SIM 2      | 1RB     | 49        | 23780/709                | 22.50                       | 21.91                 | 0.009      | 0.662                             | 1.15           | 0.758                             | /        |
| Left Cheek                                                         | Battery 2  | 1RB     | 49        | 23780/709                | 22.50                       | 21.91                 | 0.015      | 0.675                             | 1.15           | 0.773                             | /        |
| Left Cheek                                                         | Battery 3  | 1RB     | 49        | 23780/709                | 22.50                       | 21.91                 | 0.043      | 0.670                             | 1.15           | 0.767                             | /        |
| <b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>             |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 49        | 23780/709                | 23.50                       | 22.77                 | -0.010     | 0.115                             | 1.18           | 0.136                             | /        |
| Front Side                                                         | standard   | 1RB     | 49        | 23780/709                | 23.50                       | 22.77                 | 0.040      | 0.120                             | 1.18           | 0.142                             | 112      |
| Back Side                                                          | standard   | 50%RB   | 13        | 23800/711                | 22.50                       | 21.86                 | 0.000      | 0.096                             | 1.16           | 0.111                             | /        |
| Front Side                                                         | standard   | 50%RB   | 13        | 23800/711                | 22.50                       | 21.86                 | 0.050      | 0.100                             | 1.16           | 0.116                             | /        |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b> |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 49        | 23780/709                | 20.50                       | 20.11                 | 0.030      | 0.168                             | 1.09           | 0.184                             | /        |
| Front Side                                                         | standard   | 1RB     | 49        | 23780/709                | 20.50                       | 20.11                 | 0.100      | 0.120                             | 1.09           | 0.131                             | /        |
| Left Edge                                                          | standard   | 1RB     | 49        | 23780/709                | 20.50                       | 20.11                 | 0.000      | 0.187                             | 1.09           | 0.205                             | 113      |
| Right Edge                                                         | standard   | 1RB     | 49        | 23780/709                | 20.50                       | 20.11                 | 0.040      | 0.027                             | 1.09           | 0.030                             | /        |
| Top Edge                                                           | standard   | 1RB     | 49        | 23780/709                | 20.50                       | 20.11                 | -0.130     | 0.180                             | 1.09           | 0.197                             | /        |



|             |           |       |     |           |       |       |        |       |      |       |     |
|-------------|-----------|-------|-----|-----------|-------|-------|--------|-------|------|-------|-----|
| Bottom Edge | N/A       | N/A   | N/A | N/A       | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Back Side   | standard  | 50%RB | 13  | 23800/711 | 20.50 | 19.85 | 0.020  | 0.139 | 1.16 | 0.161 | /   |
| Front Side  | standard  | 50%RB | 13  | 23800/711 | 20.50 | 19.85 | 0.090  | 0.124 | 1.16 | 0.144 | /   |
| Left Edge   | standard  | 50%RB | 13  | 23800/711 | 20.50 | 19.85 | 0.030  | 0.157 | 1.16 | 0.182 | /   |
| Right Edge  | standard  | 50%RB | 13  | 23800/711 | 20.50 | 19.85 | 0.180  | 0.023 | 1.16 | 0.027 | /   |
| Top Edge    | standard  | 50%RB | 13  | 23800/711 | 20.50 | 19.85 | -0.120 | 0.150 | 1.16 | 0.174 | /   |
| Bottom Edge | N/A       | N/A   | N/A | N/A       | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Left Edge   | SIM 2     | 1RB   | 49  | 23780/709 | 20.50 | 20.11 | 0.020  | 0.179 | 1.09 | 0.196 | /   |
| Left Edge   | Battery 2 | 1RB   | 49  | 23780/709 | 20.50 | 20.11 | 0.064  | 0.182 | 1.09 | 0.199 | /   |
| Left Edge   | Battery 3 | 1RB   | 49  | 23780/709 | 20.50 | 20.11 | 0.079  | 0.184 | 1.09 | 0.201 | /   |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is not required.



Table 26: LTE Band 26 (15MHz, Antenna 2)

| Test Position                                                      | Cover Type | RB size | RB offset | Channel/ Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|--------------------------------------------------------------------|------------|---------|-----------|--------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head, QPSK)</b>                    |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 38        | 26965/841.5              | 19.50                       | 18.87                 | -0.020     | 0.470                             | 1.16           | 0.543                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 38        | 26965/841.5              | 19.50                       | 18.87                 | -0.040     | 0.415                             | 1.16           | 0.480                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 18        | 26965/841.5              | 19.50                       | 18.84                 | 0.000      | 0.470                             | 1.16           | 0.547                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 18        | 26965/841.5              | 19.50                       | 18.84                 | 0.030      | 0.430                             | 1.16           | 0.501                             | /        |
| <b>Head SAR (Single=REC On+Right Head, QPSK)</b>                   |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 38        | 26965/841.5              | 20.00                       | 19.34                 | 0.020      | 0.603                             | 1.16           | 0.702                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 38        | 26965/841.5              | 20.00                       | 19.34                 | -0.020     | 0.617                             | 1.16           | 0.718                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 18        | 26965/841.5              | 20.00                       | 19.35                 | 0.000      | 0.592                             | 1.16           | 0.688                             | /        |
| Right Tilt                                                         | standard   | 50%RB   | 18        | 26965/841.5              | 20.00                       | 19.35                 | -0.010     | 0.625                             | 1.16           | 0.726                             | 114      |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>      |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 38        | 26965/841.5              | 16.50                       | 15.77                 | 0.098      | 0.237                             | 1.18           | 0.280                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 38        | 26965/841.5              | 16.50                       | 15.77                 | 0.070      | 0.215                             | 1.18           | 0.254                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 18        | 26965/841.5              | 16.50                       | 15.94                 | 0.030      | 0.235                             | 1.14           | 0.267                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 18        | 26965/841.5              | 16.50                       | 15.94                 | 0.050      | 0.215                             | 1.14           | 0.245                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>     |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 38        | 26965/841.5              | 17.00                       | 16.33                 | -0.010     | 0.293                             | 1.17           | 0.342                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 38        | 26965/841.5              | 17.00                       | 16.33                 | 0.010      | 0.316                             | 1.17           | 0.369                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 18        | 26965/841.5              | 17.00                       | 16.41                 | 0.020      | 0.296                             | 1.15           | 0.339                             | /        |
| Right Tilt                                                         | standard   | 50%RB   | 18        | 26965/841.5              | 17.00                       | 16.41                 | 0.060      | 0.315                             | 1.15           | 0.361                             | /        |
| <b>Head SAR (For Worse Case)</b>                                   |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Right Tilt                                                         | SIM 2      | 50%RB   | 18        | 26965/841.5              | 20.00                       | 19.35                 | 0.005      | 0.597                             | 1.16           | 0.693                             | /        |
| Right Tilt                                                         | Battery 2  | 50%RB   | 18        | 26965/841.5              | 20.00                       | 19.35                 | 0.103      | 0.618                             | 1.16           | 0.718                             | /        |
| Right Tilt                                                         | Battery 3  | 50%RB   | 18        | 26965/841.5              | 20.00                       | 19.35                 | 0.041      | 0.610                             | 1.16           | 0.708                             | /        |
| <b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>             |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 38        | 26965/841.5              | 23.50                       | 22.79                 | -0.040     | 0.204                             | 1.18           | 0.240                             | /        |
| Front Side                                                         | standard   | 1RB     | 38        | 26965/841.5              | 23.50                       | 22.79                 | 0.090      | 0.218                             | 1.18           | 0.257                             | 115      |
| Back Side                                                          | standard   | 50%RB   | 18        | 26965/841.5              | 22.50                       | 21.89                 | 0.000      | 0.167                             | 1.15           | 0.192                             | /        |
| Front Side                                                         | standard   | 50%RB   | 18        | 26965/841.5              | 22.50                       | 21.89                 | 0.100      | 0.179                             | 1.15           | 0.206                             | /        |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b> |            |         |           |                          |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 38        | 26965/841.5              | 20.50                       | 19.91                 | -0.040     | 0.188                             | 1.15           | 0.215                             | 116      |
| Front Side                                                         | standard   | 1RB     | 38        | 26965/841.5              | 20.50                       | 19.91                 | 0.110      | 0.186                             | 1.15           | 0.213                             | /        |
| Left Edge                                                          | standard   | 1RB     | 38        | 26965/841.5              | 20.50                       | 19.91                 | 0.000      | 0.100                             | 1.15           | 0.114                             | /        |
| Right Edge                                                         | standard   | 1RB     | 38        | 26965/841.5              | 20.50                       | 19.91                 | 0.030      | 0.022                             | 1.15           | 0.026                             | /        |
| Top Edge                                                           | standard   | 1RB     | 38        | 26965/841.5              | 20.50                       | 19.91                 | -0.070     | 0.139                             | 1.15           | 0.159                             | /        |



|             |           |       |     |             |       |       |        |       |      |       |     |
|-------------|-----------|-------|-----|-------------|-------|-------|--------|-------|------|-------|-----|
| Bottom Edge | N/A       | N/A   | N/A | N/A         | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Back Side   | standard  | 50%RB | 18  | 26965/841.5 | 20.50 | 19.95 | -0.040 | 0.186 | 1.14 | 0.211 | /   |
| Front Side  | standard  | 50%RB | 18  | 26965/841.5 | 20.50 | 19.95 | 0.120  | 0.186 | 1.14 | 0.211 | /   |
| Left Edge   | standard  | 50%RB | 18  | 26965/841.5 | 20.50 | 19.95 | 0.090  | 0.099 | 1.14 | 0.112 | /   |
| Right Edge  | standard  | 50%RB | 18  | 26965/841.5 | 20.50 | 19.95 | 0.024  | 0.022 | 1.14 | 0.025 | /   |
| Top Edge    | standard  | 50%RB | 18  | 26965/841.5 | 20.50 | 19.95 | -0.080 | 0.139 | 1.14 | 0.158 | /   |
| Bottom Edge | N/A       | N/A   | N/A | N/A         | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Back Side   | SIM 2     | 1RB   | 38  | 26965/841.5 | 20.50 | 19.91 | 0.016  | 0.180 | 1.15 | 0.206 | /   |
| Back Side   | Battery 2 | 1RB   | 38  | 26965/841.5 | 20.50 | 19.91 | 0.050  | 0.179 | 1.15 | 0.205 | /   |
| Back Side   | Battery 3 | 1RB   | 38  | 26965/841.5 | 20.50 | 19.91 | 0.008  | 0.185 | 1.15 | 0.212 | /   |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

4. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required.



Table 27: LTE Band 38 (20MHz, Antenna 2)

| Test Position                                                  | Cover Type | RB size | RB offset | Channel/Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|----------------------------------------------------------------|------------|---------|-----------|-------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head, QPSK)</b>                |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                     | standard   | 1RB     | 99        | 38150/2610              | 22.00                       | 21.28                 | -0.050     | 0.875                             | 1.18           | 1.033                             | /        |
|                                                                |            | 1RB     | 99        | 38000/2595              | 22.00                       | 21.21                 | 0.060      | 0.884                             | 1.20           | 1.060                             | 117      |
|                                                                |            | 1RB     | 99        | 37850/2580              | 22.00                       | 21.17                 | -0.010     | 0.851                             | 1.21           | 1.030                             | /        |
| Left Tilt                                                      | standard   | 1RB     | 99        | 38150/2610              | 22.00                       | 21.28                 | 0.050      | 0.693                             | 1.18           | 0.818                             | /        |
|                                                                |            | 1RB     | 99        | 38000/2595              | 22.00                       | 21.21                 | 0.010      | 0.694                             | 1.20           | 0.832                             | /        |
|                                                                |            | 1RB     | 99        | 37850/2580              | 22.00                       | 21.17                 | 0.050      | 0.671                             | 1.21           | 0.812                             | /        |
| Left Cheek                                                     | standard   | 50%RB   | 50        | 38150/2610              | 22.00                       | 21.23                 | -0.070     | 0.825                             | 1.19           | 0.985                             | /        |
|                                                                |            | 50%RB   | 50        | 38000/2595              | 22.00                       | 21.14                 | 0.020      | 0.726                             | 1.22           | 0.885                             | /        |
|                                                                |            | 50%RB   | 25        | 37850/2580              | 22.00                       | 21.11                 | 0.000      | 0.816                             | 1.23           | 1.002                             | /        |
| Left Tilt                                                      | standard   | 50%RB   | 50        | 38150/2610              | 22.00                       | 21.23                 | 0.040      | 0.680                             | 1.19           | 0.812                             | /        |
|                                                                |            | 50%RB   | 50        | 38000/2595              | 22.00                       | 21.14                 | 0.070      | 0.844                             | 1.22           | 1.029                             | /        |
|                                                                |            | 50%RB   | 25        | 37850/2580              | 22.00                       | 21.11                 | 0.090      | 0.763                             | 1.23           | 0.937                             | /        |
| Left Cheek                                                     | standard   | 100%RB  | 0         | 38150/2610              | 22.00                       | 21.20                 | 0.050      | 0.812                             | 1.20           | 0.976                             | /        |
| Left Tilt                                                      | standard   | 100%RB  | 0         | 38150/2610              | 22.00                       | 21.20                 | 0.008      | 0.658                             | 1.20           | 0.791                             | /        |
| <b>Head SAR (Single=REC On+Right Head, QPSK)</b>               |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                    | standard   | 1RB     | 0         | 38150/2610              | 16.00                       | 15.83                 | 0.105      | 0.531                             | 1.04           | 0.552                             | /        |
| Right Tilt                                                     | standard   | 1RB     | 0         | 38150/2610              | 16.00                       | 15.83                 | 0.050      | 0.400                             | 1.04           | 0.416                             | /        |
| Right Cheek                                                    | standard   | 50%RB   | 0         | 38150/2610              | 16.00                       | 15.81                 | 0.100      | 0.455                             | 1.04           | 0.475                             | /        |
| Right Tilt                                                     | standard   | 50%RB   | 0         | 38150/2610              | 16.00                       | 15.81                 | 0.060      | 0.375                             | 1.04           | 0.392                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>  |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                     | standard   | 1RB     | 99        | 38150/2610              | 18.00                       | 17.21                 | 0.070      | 0.284                             | 1.20           | 0.341                             | /        |
| Left Tilt                                                      | standard   | 1RB     | 99        | 38150/2610              | 18.00                       | 17.21                 | 0.110      | 0.337                             | 1.20           | 0.404                             | /        |
| Left Cheek                                                     | standard   | 50%RB   | 50        | 38150/2610              | 18.00                       | 17.22                 | 0.010      | 0.274                             | 1.20           | 0.328                             | /        |
| Left Tilt                                                      | standard   | 50%RB   | 50        | 38150/2610              | 18.00                       | 17.22                 | 0.140      | 0.323                             | 1.20           | 0.387                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b> |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                    | standard   | 1RB     | 50        | 38150/2610              | 12.00                       | 11.74                 | 0.023      | 0.203                             | 1.06           | 0.216                             | /        |
| Right Tilt                                                     | standard   | 1RB     | 50        | 38150/2610              | 12.00                       | 11.74                 | 0.023      | 0.156                             | 1.06           | 0.166                             | /        |
| Right Cheek                                                    | standard   | 50%RB   | 50        | 38150/2610              | 12.00                       | 11.79                 | 0.080      | 0.197                             | 1.05           | 0.207                             | /        |
| Right Tilt                                                     | standard   | 50%RB   | 50        | 38150/2610              | 12.00                       | 11.79                 | -0.090     | 0.159                             | 1.05           | 0.167                             | /        |
| <b>Head SAR (For Worse Case)</b>                               |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                     | SIM 2      | 1RB     | 99        | 38000/2595              | 22.00                       | 21.21                 | 0.120      | 0.819                             | 1.20           | 0.982                             | /        |
| Left Cheek                                                     | Battery 2  | 1RB     | 99        | 38000/2595              | 22.00                       | 21.21                 | -0.030     | 0.677                             | 1.20           | 0.812                             | /        |
| Left Cheek                                                     | Battery 3  | 1RB     | 99        | 38000/2595              | 22.00                       | 21.21                 | 0.050      | 0.832                             | 1.20           | 0.998                             | /        |
| Left Cheek                                                     | Repeated   | 1RB     | 99        | 38000/2595              | 22.00                       | 21.21                 | 0.010      | 0.879                             | 1.20           | 1.054                             | /        |
| <b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>         |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                      | standard   | 1RB     | 99        | 38150/2610              | 24.00                       | 23.18                 | -0.127     | 0.111                             | 1.21           | 0.134                             | /        |
| Front Side                                                     | standard   | 1RB     | 99        | 38150/2610              | 24.00                       | 23.18                 | -0.029     | 0.153                             | 1.21           | 0.185                             | 118      |



|                                                                    |           |       |     |            |       |       |        |       |      |       |     |
|--------------------------------------------------------------------|-----------|-------|-----|------------|-------|-------|--------|-------|------|-------|-----|
| Back Side                                                          | standard  | 50%RB | 50  | 38150/2610 | 23.00 | 22.27 | -0.074 | 0.098 | 1.18 | 0.116 | /   |
| Front Side                                                         | standard  | 50%RB | 50  | 38150/2610 | 23.00 | 22.27 | -0.058 | 0.151 | 1.18 | 0.179 | /   |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b> |           |       |     |            |       |       |        |       |      |       |     |
| Back Side                                                          | standard  | 1RB   | 99  | 38150/2610 | 20.00 | 19.28 | -0.030 | 0.154 | 1.18 | 0.182 | 119 |
| Front Side                                                         | standard  | 1RB   | 99  | 38150/2610 | 20.00 | 19.28 | -0.154 | 0.149 | 1.18 | 0.176 | /   |
| Left Edge                                                          | standard  | 1RB   | 99  | 38150/2610 | 20.00 | 19.28 | 0.040  | 0.118 | 1.18 | 0.139 | /   |
| Right Edge                                                         | standard  | 1RB   | 99  | 38150/2610 | 20.00 | 19.28 | 0.047  | 0.017 | 1.18 | 0.020 | /   |
| Top Edge                                                           | standard  | 1RB   | 99  | 38150/2610 | 20.00 | 19.28 | 0.020  | 0.149 | 1.18 | 0.176 | /   |
| Bottom Edge                                                        | N/A       | N/A   | N/A | N/A        | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Back Side                                                          | standard  | 50%RB | 50  | 38150/2610 | 20.00 | 19.20 | -0.054 | 0.150 | 1.20 | 0.180 | /   |
| Front Side                                                         | standard  | 50%RB | 50  | 38150/2610 | 20.00 | 19.20 | -0.031 | 0.153 | 1.20 | 0.184 | /   |
| Left Edge                                                          | standard  | 50%RB | 50  | 38150/2610 | 20.00 | 19.20 | -0.040 | 0.114 | 1.20 | 0.137 | /   |
| Right Edge                                                         | standard  | 50%RB | 50  | 38150/2610 | 20.00 | 19.20 | -0.114 | 0.014 | 1.20 | 0.017 | /   |
| Top Edge                                                           | standard  | 50%RB | 50  | 38150/2610 | 20.00 | 19.20 | 0.180  | 0.149 | 1.20 | 0.179 | /   |
| Bottom Edge                                                        | N/A       | N/A   | N/A | N/A        | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Top Edge                                                           | SIM 2     | 1RB   | 99  | 38150/2610 | 20.00 | 19.28 | 0.014  | 0.150 | 1.18 | 0.177 | /   |
| Top Edge                                                           | Battery 2 | 1RB   | 99  | 38150/2610 | 20.00 | 19.28 | 0.032  | 0.148 | 1.18 | 0.175 | /   |
| Top Edge                                                           | Battery 3 | 1RB   | 99  | 38150/2610 | 20.00 | 19.28 | -0.021 | 0.152 | 1.18 | 0.179 | /   |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 0.8$  W/kg.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is not required.





Table 28: LTE Band 41 (20MHz, Antenna 2)

| Test Position                                                      | Cover Type | RB size | RB offset | Channel/Frequency (MHz) | Maximum Allowed Power (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|--------------------------------------------------------------------|------------|---------|-----------|-------------------------|-----------------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (Single=REC On+Left Head, QPSK)</b>                    |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 99        | 41140/2645              | 23.00                       | 22.46                 | 0.052      | 0.781                             | 1.13           | 0.884                             | 120      |
|                                                                    |            | 1RB     | 99        | 40690/2600              | 23.00                       | 22.28                 | -0.010     | 0.626                             | 1.18           | 0.739                             | /        |
|                                                                    |            | 1RB     | 99        | 40240/2555              | 23.00                       | 22.14                 | 0.000      | 0.517                             | 1.22           | 0.630                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 99        | 41140/2645              | 23.00                       | 22.46                 | 0.120      | 0.664                             | 1.13           | 0.752                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 50        | 41140/2645              | 23.00                       | 22.38                 | 0.190      | 0.746                             | 1.15           | 0.860                             | /        |
|                                                                    |            | 50%RB   | 50        | 40690/2600              | 23.00                       | 22.29                 | 0.030      | 0.739                             | 1.18           | 0.870                             | /        |
|                                                                    |            | 50%RB   | 50        | 40240/2555              | 23.00                       | 22.22                 | -0.020     | 0.722                             | 1.20           | 0.864                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 50        | 41140/2645              | 23.00                       | 22.38                 | 0.140      | 0.640                             | 1.15           | 0.738                             | /        |
| Left Cheek                                                         | standard   | 100%RB  | 0         | 41140/2645              | 23.00                       | 22.35                 | 0.090      | 0.718                             | 1.16           | 0.834                             | /        |
| <b>Head SAR (Single=REC On+Right Head, QPSK)</b>                   |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 99        | 41140/2645              | 17.00                       | 16.41                 | 0.139      | 0.624                             | 1.15           | 0.715                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 99        | 41140/2645              | 17.00                       | 16.41                 | -0.030     | 0.488                             | 1.15           | 0.559                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 0         | 41140/2645              | 17.00                       | 16.34                 | 0.080      | 0.544                             | 1.16           | 0.633                             | /        |
| Right Tilt                                                         | standard   | 50%RB   | 0         | 41140/2645              | 17.00                       | 16.34                 | 0.080      | 0.488                             | 1.16           | 0.568                             | /        |
| <b>Head SAR (Synchronous=REC On+Left Head+Wi-Fi/BT, QPSK)</b>      |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | standard   | 1RB     | 50        | 41140/2645              | 20.00                       | 19.40                 | -0.030     | 0.315                             | 1.15           | 0.362                             | /        |
| Left Tilt                                                          | standard   | 1RB     | 50        | 41140/2645              | 20.00                       | 19.40                 | 0.020      | 0.299                             | 1.15           | 0.343                             | /        |
| Left Cheek                                                         | standard   | 50%RB   | 0         | 41140/2645              | 20.00                       | 19.32                 | 0.130      | 0.315                             | 1.17           | 0.368                             | /        |
| Left Tilt                                                          | standard   | 50%RB   | 0         | 41140/2645              | 20.00                       | 19.32                 | 0.021      | 0.308                             | 1.17           | 0.360                             | /        |
| <b>Head SAR (Synchronous=REC On+Right Head+Wi-Fi/BT, QPSK)</b>     |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Right Cheek                                                        | standard   | 1RB     | 50        | 41140/2645              | 14.50                       | 13.99                 | 0.028      | 0.364                             | 1.12           | 0.409                             | /        |
| Right Tilt                                                         | standard   | 1RB     | 50        | 41140/2645              | 14.50                       | 13.99                 | -0.040     | 0.244                             | 1.12           | 0.274                             | /        |
| Right Cheek                                                        | standard   | 50%RB   | 25        | 41140/2645              | 14.50                       | 13.76                 | 0.022      | 0.322                             | 1.19           | 0.382                             | /        |
| Right Tilt                                                         | standard   | 50%RB   | 25        | 41140/2645              | 14.50                       | 13.76                 | 0.100      | 0.234                             | 1.19           | 0.277                             | /        |
| <b>Head SAR (For Worse Case)</b>                                   |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Left Cheek                                                         | SIM 2      | 1RB     | 99        | 41140/2645              | 23.00                       | 22.46                 | 0.004      | 0.638                             | 1.13           | 0.722                             | /        |
| Left Cheek                                                         | Battery 2  | 1RB     | 99        | 41140/2645              | 23.00                       | 22.46                 | 0.105      | 0.749                             | 1.13           | 0.848                             | /        |
| Left Cheek                                                         | Battery 3  | 1RB     | 99        | 41140/2645              | 23.00                       | 22.46                 | 0.028      | 0.772                             | 1.13           | 0.874                             | /        |
| <b>Body-worn (Single=REC Off, QPSK, Distance 15mm)</b>             |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 99        | 41140/2645              | 24.00                       | 23.91                 | -0.094     | 0.197                             | 1.02           | 0.201                             | /        |
| Front Side                                                         | standard   | 1RB     | 99        | 41140/2645              | 24.00                       | 23.91                 | -0.187     | 0.244                             | 1.02           | 0.249                             | 121      |
| Back Side                                                          | standard   | 50%RB   | 50        | 41140/2645              | 23.50                       | 22.92                 | -0.038     | 0.161                             | 1.14           | 0.184                             | /        |
| Front Side                                                         | standard   | 50%RB   | 50        | 41140/2645              | 23.50                       | 22.92                 | -0.026     | 0.196                             | 1.14           | 0.224                             | /        |
| <b>Hotspot (Synchronous=REC Off+Wi-Fi/BT, QPSK, Distance 10mm)</b> |            |         |           |                         |                             |                       |            |                                   |                |                                   |          |
| Back Side                                                          | standard   | 1RB     | 99        | 41140/2645              | 21.50                       | 20.96                 | -0.126     | 0.246                             | 1.13           | 0.279                             | /        |
| Front Side                                                         | standard   | 1RB     | 99        | 41140/2645              | 21.50                       | 20.96                 | 0.037      | 0.243                             | 1.13           | 0.275                             | /        |
| Left Edge                                                          | standard   | 1RB     | 99        | 41140/2645              | 21.50                       | 20.96                 | -0.020     | 0.169                             | 1.13           | 0.191                             | /        |



|             |           |       |     |            |       |       |        |       |      |       |     |
|-------------|-----------|-------|-----|------------|-------|-------|--------|-------|------|-------|-----|
| Right Edge  | standard  | 1RB   | 99  | 41140/2645 | 21.50 | 20.96 | 0.034  | 0.032 | 1.13 | 0.036 | /   |
| Top Edge    | standard  | 1RB   | 99  | 41140/2645 | 21.50 | 20.96 | 0.027  | 0.252 | 1.13 | 0.285 | 122 |
| Bottom Edge | N/A       | N/A   | N/A | N/A        | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Back Side   | standard  | 50%RB | 25  | 41140/2645 | 21.50 | 20.96 | -0.035 | 0.244 | 1.13 | 0.276 | /   |
| Front Side  | standard  | 50%RB | 25  | 41140/2645 | 21.50 | 20.96 | -0.176 | 0.233 | 1.13 | 0.264 | /   |
| Left Edge   | standard  | 50%RB | 25  | 41140/2645 | 21.50 | 20.96 | 0.036  | 0.166 | 1.13 | 0.188 | /   |
| Right Edge  | standard  | 50%RB | 25  | 41140/2645 | 21.50 | 20.96 | 0.070  | 0.028 | 1.13 | 0.032 | /   |
| Top Edge    | standard  | 50%RB | 25  | 41140/2645 | 21.50 | 20.96 | 0.160  | 0.245 | 1.13 | 0.277 | /   |
| Bottom Edge | N/A       | N/A   | N/A | N/A        | N/A   | N/A   | N/A    | N/A   | N/A  | N/A   | N/A |
| Top Edge    | SIM 2     | 1RB   | 99  | 41140/2645 | 21.50 | 20.96 | 0.015  | 0.233 | 1.13 | 0.264 | /   |
| Top Edge    | Battery 2 | 1RB   | 99  | 41140/2645 | 21.50 | 20.96 | 0.006  | 0.248 | 1.13 | 0.281 | /   |
| Top Edge    | Battery 3 | 1RB   | 99  | 41140/2645 | 21.50 | 20.96 | 0.067  | 0.240 | 1.13 | 0.272 | /   |

Note: 1. The value with blue color is the maximum SAR Value of each test band.

2. Per FCC KDB Publication 447498 D01, if the reported (scaled) SAR measured at the middle channel or highest output power channel for each test configuration is  $\leq 0.8$  W/kg then testing at the other channels is not required for such test configuration(s).

3. For QPSK with 100% RB allocation, SAR is required when and the highest reported SAR for 1 RB and 50% RB allocation in are  $\geq 0.8$  W/kg.

4. Per FCC KDB Publication 648474 D04, SAR was evaluated without a headset connected to the device. Since the reported SAR was  $\leq 1.2$  W/kg, no additional SAR evaluations using a headset cable were required.

5. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR  $< 1.2$  W/kg, Product Specific 10-g SAR is no required.



Table 29: Wi-Fi (2.4G, Antenna 1, SISO Mode)

| Test Position                                                                                                                                                                                                                           | Cover Type | Channel/Frequency (MHz) | Mode 802.11b | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------|--------------|------------|---------------------|-----------------------|------------|--------------------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR (REC On)                                                                                                                                                                                                                       |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| Left Cheek                                                                                                                                                                                                                              | standard   | 6/2437                  | DSSS         | 1:1        | 13.50               | 12.95                 | 0.028      | 0.355                    | 0.490                             | 1.14           | 0.556                             | /        |
| Left Tilt                                                                                                                                                                                                                               | standard   | 6/2437                  | DSSS         | 1:1        | 13.50               | 12.95                 | 0.020      | 0.500                    | 0.467                             | 1.14           | 0.530                             | /        |
| Right Cheek                                                                                                                                                                                                                             | standard   | 6/2437                  | DSSS         | 1:1        | 13.50               | 12.95                 | -0.039     | 0.156                    | 0.183                             | 1.14           | 0.208                             | /        |
| Right Tilt                                                                                                                                                                                                                              | standard   | 6/2437                  | DSSS         | 1:1        | 13.50               | 12.95                 | 0.104      | 0.184                    | 0.196                             | 1.14           | 0.222                             | /        |
| Left Cheek                                                                                                                                                                                                                              | Battery 2  | 6/2437                  | DSSS         | 1:1        | 13.50               | 12.95                 | -0.060     | 0.468                    | 0.492                             | 1.14           | 0.558                             | 123      |
| Left Cheek                                                                                                                                                                                                                              | Battery 3  | 6/2437                  | DSSS         | 1:1        | 13.50               | 12.95                 | 0.020      | 0.337                    | 0.429                             | 1.14           | 0.487                             | /        |
| Body-worn (REC Off, Distance 15mm)                                                                                                                                                                                                      |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                               | standard   | 6/2437                  | DSSS         | 1:1        | 18.50               | 17.97                 | -0.100     | 0.183                    | 0.185                             | 1.13           | 0.209                             | 124      |
| Front Side                                                                                                                                                                                                                              | standard   | 6/2437                  | DSSS         | 1:1        | 18.50               | 17.97                 | -0.045     | 0.172                    | 0.177                             | 1.13           | 0.200                             | /        |
| Hotspot (REC Off, Distance 10mm)                                                                                                                                                                                                        |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                               | standard   | 6/2437                  | DSSS         | 1:1        | 18.50               | 17.97                 | 0.127      | 0.400                    | 0.354                             | 1.13           | 0.400                             | /        |
| Front Side                                                                                                                                                                                                                              | standard   | 6/2437                  | DSSS         | 1:1        | 18.50               | 17.97                 | 0.140      | 0.292                    | 0.336                             | 1.13           | 0.380                             | /        |
| Left Edge                                                                                                                                                                                                                               | N/A        | N/A                     | N/A          | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                               | N/A            | N/A                               | N/A      |
| Right Edge                                                                                                                                                                                                                              | standard   | 6/2437                  | DSSS         | 1:1        | 18.50               | 17.97                 | 0.170      | 0.301                    | 0.339                             | 1.13           | 0.383                             | /        |
| Top Edge                                                                                                                                                                                                                                | standard   | 6/2437                  | DSSS         | 1:1        | 18.50               | 17.97                 | 0.070      | 0.443                    | 0.464                             | 1.13           | 0.524                             | 125      |
| Bottom Edge                                                                                                                                                                                                                             | N/A        | N/A                     | N/A          | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                                                                                                                                                                                               | Battery 2  | 6/2437                  | DSSS         | 1:1        | 18.50               | 17.97                 | 0.020      | 0.297                    | 0.304                             | 1.13           | 0.343                             | /        |
| Back Side                                                                                                                                                                                                                               | Battery 3  | 6/2437                  | DSSS         | 1:1        | 18.50               | 17.97                 | 0.050      | 0.274                    | 0.269                             | 1.13           | 0.304                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.<br>2. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is no required. |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |

| MAX Adjusted SAR                                                                                                                                                                                      |               |                        |                                       |                             |                     |                |                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|---------------------------------------|-----------------------------|---------------------|----------------|-----------------------------------|
| Mode                                                                                                                                                                                                  | Test Position | Channel/Frequency(MHz) | MAX Measured SAR <sub>1g</sub> (W/kg) | 802.11b Tune-up limit (dBm) | Tune-up limit (dBm) | Scaling Factor | Adjusted SAR <sub>1g</sub> (W/kg) |
| 802.11g                                                                                                                                                                                               | Left Cheek    | 6/2437                 | 0.492                                 | 13.50                       | 13.50               | 1.00           | 0.492                             |
| 802.11n HT20                                                                                                                                                                                          | Left Cheek    | 6/2437                 | 0.492                                 | 13.50                       | 13.50               | 1.00           | 0.492                             |
| Note: For SISO mode, SAR is not required for OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS, specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. |               |                        |                                       |                             |                     |                |                                   |



Table 30: Wi-Fi (2.4G, Antenna 2, SISO Mode)

| Test Position                                                                                                                                                                                                                           | Cover Type | Channel/Frequency (MHz) | Mode 802.11b | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------|--------------|------------|---------------------|-----------------------|------------|--------------------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR (REC On)                                                                                                                                                                                                                       |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| Left Cheek                                                                                                                                                                                                                              | standard   | 6/2437                  | OFDM         | 1:1        | 18.00               | 16.87                 | 0.031      | 0.106                    | 0.121                             | 1.30           | 0.157                             | /        |
| Left Tilt                                                                                                                                                                                                                               | standard   | 6/2437                  | OFDM         | 1:1        | 18.00               | 16.87                 | 0.036      | 0.109                    | 0.118                             | 1.30           | 0.153                             | /        |
| Right Cheek                                                                                                                                                                                                                             | standard   | 6/2437                  | OFDM         | 1:1        | 18.00               | 16.87                 | 0.174      | 0.058                    | 0.078                             | 1.30           | 0.101                             | /        |
| Right Tilt                                                                                                                                                                                                                              | standard   | 6/2437                  | OFDM         | 1:1        | 18.00               | 16.87                 | 0.127      | 0.063                    | 0.084                             | 1.30           | 0.109                             | /        |
| Left Cheek                                                                                                                                                                                                                              | Battery 2  | 6/2437                  | OFDM         | 1:1        | 18.00               | 16.87                 | 0.024      | 0.158                    | 0.173                             | 1.30           | 0.224                             | 126      |
| Left Cheek                                                                                                                                                                                                                              | Battery 3  | 6/2437                  | OFDM         | 1:1        | 18.00               | 16.87                 | -0.100     | 0.135                    | 0.147                             | 1.30           | 0.191                             | /        |
| Body-worn (REC Off, Distance 15mm)                                                                                                                                                                                                      |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                               | standard   | 6/2437                  | OFDM         | 1:1        | 18.00               | 17.33                 | 0.068      | 0.179                    | 0.219                             | 1.17           | 0.256                             | 127      |
| Front Side                                                                                                                                                                                                                              | standard   | 6/2437                  | OFDM         | 1:1        | 18.00               | 17.33                 | 0.117      | 0.008                    | 0.006                             | 1.17           | 0.007                             | /        |
| Hotspot (REC Off, Distance 10mm)                                                                                                                                                                                                        |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                               | standard   | 6/2437                  | OFDM         | 1:1        | 18.00               | 17.33                 | 0.033      | 0.446                    | 0.540                             | 1.17           | 0.630                             | 128      |
| Front Side                                                                                                                                                                                                                              | standard   | 6/2437                  | OFDM         | 1:1        | 18.00               | 17.33                 | -0.030     | 0.030                    | 0.026                             | 1.17           | 0.031                             | /        |
| Left Edge                                                                                                                                                                                                                               | standard   | 6/2437                  | OFDM         | 1:1        | 18.00               | 17.33                 | 0.012      | 0.009                    | 0.008                             | 1.17           | 0.009                             | /        |
| Right Edge                                                                                                                                                                                                                              | standard   | 6/2437                  | OFDM         | 1:1        | 18.00               | 17.33                 | 0.029      | 0.015                    | 0.014                             | 1.17           | 0.016                             | /        |
| Top Edge                                                                                                                                                                                                                                | standard   | 6/2437                  | OFDM         | 1:1        | 18.00               | 17.33                 | 0.066      | 0.050                    | 0.065                             | 1.17           | 0.076                             | /        |
| Bottom Edge                                                                                                                                                                                                                             | N/A        | N/A                     | N/A          | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                                                                                                                                                                                               | Battery 2  | 6/2437                  | OFDM         | 1:1        | 18.00               | 17.33                 | 0.020      | 0.388                    | 0.492                             | 1.17           | 0.574                             | /        |
| Back Side                                                                                                                                                                                                                               | Battery 3  | 6/2437                  | OFDM         | 1:1        | 18.00               | 17.33                 | 0.165      | 0.396                    | 0.500                             | 1.17           | 0.583                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.<br>2. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is no required. |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |

| MAX Adjusted SAR                                                                                                                                                                                      |               |                        |                                       |                             |                     |                |                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|---------------------------------------|-----------------------------|---------------------|----------------|-----------------------------------|
| Mode                                                                                                                                                                                                  | Test Position | Channel/Frequency(MHz) | MAX Measured SAR <sub>1g</sub> (W/kg) | 802.11b Tune-up limit (dBm) | Tune-up limit (dBm) | Scaling Factor | Adjusted SAR <sub>1g</sub> (W/kg) |
| 802.11g                                                                                                                                                                                               | Back Side     | 6/2437                 | 0.540                                 | 18.00                       | 16.00               | 0.63           | 0.341                             |
| 802.11n HT20                                                                                                                                                                                          | Back Side     | 6/2437                 | 0.540                                 | 18.00                       | 14.50               | 0.45           | 0.241                             |
| Note: For SISO mode, SAR is not required for OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS, specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. |               |                        |                                       |                             |                     |                |                                   |



Table 31: Wi-Fi (2.4G, Antenna 1, CDD/MIMO Mode)

| Test Position                                                                                                                                                                                                                           | Cover Type | Channel/Frequency (MHz) | Mode 802.11g | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------|--------------|------------|---------------------|-----------------------|------------|--------------------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR (REC On)                                                                                                                                                                                                                       |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| Left Cheek                                                                                                                                                                                                                              | standard   | 6/2437                  | DSSS         | 1:1        | 13.50               | 12.93                 | 0.032      | 0.395                    | 0.509                             | 1.14           | 0.580                             | /        |
| Left Tilt                                                                                                                                                                                                                               | standard   | 6/2437                  | DSSS         | 1:1        | 13.50               | 12.93                 | 0.068      | 0.341                    | 0.494                             | 1.14           | 0.563                             | /        |
| Right Cheek                                                                                                                                                                                                                             | standard   | 6/2437                  | DSSS         | 1:1        | 13.50               | 12.93                 | 0.074      | 0.159                    | 0.214                             | 1.14           | 0.244                             | /        |
| Right Tilt                                                                                                                                                                                                                              | standard   | 6/2437                  | DSSS         | 1:1        | 13.50               | 12.93                 | 0.181      | 0.182                    | 0.243                             | 1.14           | 0.277                             | /        |
| Left Cheek                                                                                                                                                                                                                              | Battery 2  | 6/2437                  | DSSS         | 1:1        | 13.50               | 12.93                 | 0.025      | 0.421                    | 0.510                             | 1.14           | 0.582                             | 129      |
| Left Cheek                                                                                                                                                                                                                              | Battery 3  | 6/2437                  | DSSS         | 1:1        | 13.50               | 12.93                 | 0.076      | 0.321                    | 0.462                             | 1.14           | 0.527                             | /        |
| Body-worn (REC Off, Distance 15mm)                                                                                                                                                                                                      |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                               | standard   | 6/2437                  | DSSS         | 1:1        | 16.50               | 15.45                 | 0.101      | 0.104                    | 0.103                             | 1.27           | 0.131                             | 130      |
| Front Side                                                                                                                                                                                                                              | standard   | 6/2437                  | DSSS         | 1:1        | 16.50               | 15.45                 | 0.077      | 0.097                    | 0.099                             | 1.27           | 0.127                             | /        |
| Hotspot (REC Off, Distance 10mm)                                                                                                                                                                                                        |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                               | standard   | 6/2437                  | DSSS         | 1:1        | 16.50               | 15.45                 | 0.046      | 0.221                    | 0.205                             | 1.27           | 0.261                             | /        |
| Front Side                                                                                                                                                                                                                              | standard   | 6/2437                  | DSSS         | 1:1        | 16.50               | 15.45                 | 0.091      | 0.206                    | 0.210                             | 1.27           | 0.267                             | /        |
| Left Edge                                                                                                                                                                                                                               | N/A        | N/A                     | N/A          | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                               | N/A            | N/A                               | N/A      |
| Right Edge                                                                                                                                                                                                                              | standard   | 6/2437                  | DSSS         | 1:1        | 16.50               | 15.45                 | 0.031      | 0.140                    | 0.144                             | 1.27           | 0.183                             | /        |
| Top Edge                                                                                                                                                                                                                                | standard   | 6/2437                  | DSSS         | 1:1        | 16.50               | 15.45                 | 0.051      | 0.277                    | 0.242                             | 1.27           | 0.308                             | 131      |
| Bottom Edge                                                                                                                                                                                                                             | N/A        | N/A                     | N/A          | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                               | N/A            | N/A                               | N/A      |
| Top Edge                                                                                                                                                                                                                                | Battery 2  | 6/2437                  | DSSS         | 1:1        | 16.50               | 15.45                 | 0.011      | 0.260                    | 0.233                             | 1.27           | 0.297                             | /        |
| Top Edge                                                                                                                                                                                                                                | Battery 3  | 6/2437                  | DSSS         | 1:1        | 16.50               | 15.45                 | 0.060      | 0.268                    | 0.230                             | 1.27           | 0.293                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.<br>2. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is no required. |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |

| MAX Adjusted SAR                                                                                                                                                                                      |               |                        |                                       |                             |                     |                |                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|---------------------------------------|-----------------------------|---------------------|----------------|-----------------------------------|
| Mode                                                                                                                                                                                                  | Test Position | Channel/Frequency(MHz) | MAX Measured SAR <sub>1g</sub> (W/kg) | 802.11g Tune-up limit (dBm) | Tune-up limit (dBm) | Scaling Factor | Adjusted SAR <sub>1g</sub> (W/kg) |
| 802.11n HT20                                                                                                                                                                                          | Left Cheek    | 6/2437                 | 0.510                                 | 13.50                       | 13.50               | 1.00           | 0.510                             |
| Note: For SISO mode, SAR is not required for OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS, specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. |               |                        |                                       |                             |                     |                |                                   |



Table 32: Wi-Fi (2.4G, Antenna 2, CDD/MIMO Mode)

| Test Position                                                                                                                                         | Cover Type | Channel/Frequency (MHz) | Mode 802.11g | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------|--------------|------------|---------------------|-----------------------|------------|--------------------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR (REC On)                                                                                                                                     |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| Left Cheek                                                                                                                                            | standard   | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.54                 | 0.026      | 0.090                    | 0.097                             | 1.40           | 0.136                             | 132      |
| Left Tilt                                                                                                                                             | standard   | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.54                 | 0.038      | 0.087                    | 0.081                             | 1.40           | 0.113                             | /        |
| Right Cheek                                                                                                                                           | standard   | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.54                 | -0.092     | 0.054                    | 0.061                             | 1.40           | 0.085                             | /        |
| Right Tilt                                                                                                                                            | standard   | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.54                 | 0.047      | 0.056                    | 0.060                             | 1.40           | 0.084                             | /        |
| Left Cheek                                                                                                                                            | Battery 2  | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.54                 | 0.017      | 0.085                    | 0.088                             | 1.40           | 0.123                             | /        |
| Left Cheek                                                                                                                                            | Battery 3  | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.54                 | 0.090      | 0.084                    | 0.090                             | 1.40           | 0.126                             | /        |
| Body-worn (REC Off, Distance 15mm)                                                                                                                    |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                             | standard   | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.67                 | 0.043      | 0.004                    | 0.005                             | 1.36           | 0.007                             | 133      |
| Front Side                                                                                                                                            | standard   | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.67                 | 0.000      | 0.001                    | 0.001                             | 1.36           | 0.002                             | /        |
| Hotspot (REC Off, Distance 10mm)                                                                                                                      |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                             | standard   | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.67                 | 0.070      | 0.015                    | 0.016                             | 1.36           | 0.022                             | 134      |
| Front Side                                                                                                                                            | standard   | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.67                 | 0.000      | 0.004                    | 0.004                             | 1.36           | 0.006                             | /        |
| Left Edge                                                                                                                                             | standard   | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.67                 | 0.034      | 0.001                    | 0.001                             | 1.36           | 0.001                             | /        |
| Right Edge                                                                                                                                            | standard   | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.67                 | -0.070     | 0.002                    | 0.002                             | 1.36           | 0.003                             | /        |
| Top Edge                                                                                                                                              | standard   | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.67                 | 0.106      | 0.003                    | 0.003                             | 1.36           | 0.004                             | /        |
| Bottom Edge                                                                                                                                           | N/A        | N/A                     | N/A          | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                                                                                                             | Battery 2  | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.67                 | 0.050      | 0.012                    | 0.012                             | 1.36           | 0.016                             | /        |
| Back Side                                                                                                                                             | Battery 3  | 6/2437                  | OFDM         | 1:1        | 16.00               | 14.67                 | 0.007      | 0.013                    | 0.014                             | 1.36           | 0.019                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.                                                                        |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |
| 2. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is no required. |            |                         |              |            |                     |                       |            |                          |                                   |                |                                   |          |

| MAX Adjusted SAR                                                                                                                                                                                      |               |                        |                                       |                             |                     |                |                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|------------------------|---------------------------------------|-----------------------------|---------------------|----------------|-----------------------------------|
| Mode                                                                                                                                                                                                  | Test Position | Channel/Frequency(MHz) | MAX Measured SAR <sub>1g</sub> (W/kg) | 802.11g Tune-up limit (dBm) | Tune-up limit (dBm) | Scaling Factor | Adjusted SAR <sub>1g</sub> (W/kg) |
| 802.11n HT20                                                                                                                                                                                          | Left Cheek    | 6/2437                 | 0.097                                 | 18.00                       | 14.50               | 0.45           | 0.241                             |
| Note: For SISO mode, SAR is not required for OFDM when the highest reported SAR for DSSS is adjusted by the ratio of OFDM to DSSS, specified maximum output power and the adjusted SAR is ≤ 1.2 W/kg. |               |                        |                                       |                             |                     |                |                                   |



Table 33: Wi-Fi (5G, Antenna 1, U-NII-2A)

| Test Position                                                                                                                                                         | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>1g</sub> (W/kg)  | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg)  | Plot No. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------|------|------------|---------------------|-----------------------|------------|--------------------------|------------------------------------|----------------|------------------------------------|----------|
| Head SAR (802.11ac HT80, REC On)                                                                                                                                      |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| Left Cheek                                                                                                                                                            | standard   | 58/5290                 | OFDM | 1:1        | 11.00               | 9.62                  | 0.022      | 0.283                    | 0.310                              | 1.37           | 0.426                              | /        |
| Left Tilt                                                                                                                                                             | standard   | 58/5290                 | OFDM | 1:1        | 11.00               | 9.62                  | 0.023      | 0.282                    | 0.231                              | 1.37           | 0.317                              | /        |
| Right Cheek                                                                                                                                                           | standard   | 58/5290                 | OFDM | 1:1        | 11.00               | 9.62                  | 0.065      | 0.094                    | 0.151                              | 1.37           | 0.207                              | /        |
| Right Tilt                                                                                                                                                            | standard   | 58/5290                 | OFDM | 1:1        | 11.00               | 9.62                  | 0.054      | 0.080                    | 0.133                              | 1.37           | 0.183                              | /        |
| Left Cheek                                                                                                                                                            | Battery 2  | 58/5290                 | OFDM | 1:1        | 11.00               | 9.62                  | 0.107      | 0.380                    | 0.327                              | 1.37           | 0.449                              | 135      |
| Left Cheek                                                                                                                                                            | Battery 3  | 58/5290                 | OFDM | 1:1        | 11.00               | 9.62                  | 0.076      | 0.319                    | 0.320                              | 1.37           | 0.440                              | /        |
| Body-worn (802.11a, REC Off, Distance 15mm)                                                                                                                           |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| Back Side                                                                                                                                                             | standard   | 52/5260                 | OFDM | 1:1        | 14.00               | 12.96                 | 0.000      | 0.147                    | 0.127                              | 1.27           | 0.161                              | 136      |
| Front Side                                                                                                                                                            | standard   | 52/5260                 | OFDM | 1:1        | 14.00               | 12.96                 | 0.000      | 0.061                    | 0.053                              | 1.27           | 0.067                              | /        |
| Back Side                                                                                                                                                             | Battery 2  | 52/5260                 | OFDM | 1:1        | 14.00               | 12.96                 | 0.041      | 0.135                    | 0.118                              | 1.27           | 0.150                              | /        |
| Back Side                                                                                                                                                             | Battery 3  | 52/5260                 | OFDM | 1:1        | 14.00               | 12.96                 | 0.008      | 0.130                    | 0.120                              | 1.27           | 0.152                              | /        |
| Test Position                                                                                                                                                         | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>10g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>10g</sub> (W/kg) | Plot No. |
| Product Specific 10-g SAR (802.11a, REC Off, Distance 0mm)                                                                                                            |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| Back Side                                                                                                                                                             | standard   | 52/5260                 | OFDM | 1:1        | 14.00               | 12.96                 | 0.000      | 0.411                    | 0.345                              | 1.27           | 0.438                              | 137      |
| Front Side                                                                                                                                                            | standard   | 52/5260                 | OFDM | 1:1        | 14.00               | 12.96                 | 0.000      | 0.262                    | 0.243                              | 1.27           | 0.309                              | /        |
| Left Edge                                                                                                                                                             | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                                | N/A            | N/A                                | N/A      |
| Right Edge                                                                                                                                                            | standard   | 52/5260                 | OFDM | 1:1        | 14.00               | 12.96                 | 0.130      | 0.233                    | 0.231                              | 1.27           | 0.293                              | /        |
| Top Edge                                                                                                                                                              | standard   | 52/5260                 | OFDM | 1:1        | 14.00               | 12.96                 | 0.000      | 0.165                    | 0.156                              | 1.27           | 0.198                              | /        |
| Bottom Edge                                                                                                                                                           | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                                | N/A            | N/A                                | N/A      |
| Back Side                                                                                                                                                             | Battery 2  | 52/5260                 | OFDM | 1:1        | 14.00               | 12.96                 | 0.016      | 0.348                    | 0.337                              | 1.27           | 0.428                              | /        |
| Back Side                                                                                                                                                             | Battery 3  | 52/5260                 | OFDM | 1:1        | 14.00               | 12.96                 | 0.007      | 0.350                    | 0.333                              | 1.27           | 0.423                              | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.<br>2. For band U-NII-2A is not support hotspot, Product Specific 10-g SAR is required. |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |

**Table 34: Wi-Fi (5G, Antenna 1, U-NII-1)**

Per 248227, for band U-NII-1 and U-NII-2A, when the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

| Test Position                                                                                                                                                                                                                            | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------|------|------------|---------------------|-----------------------|------------|--------------------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Hotspot (802.11a, REC Off, Distance 10mm)</b>                                                                                                                                                                                         |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                                | standard   | 36/5180                 | OFDM | 1:1        | 14.00               | 13.06                 | 0.000      | 0.139                    | 0.114                             | 1.24           | 0.142                             | 138      |
| Front Side                                                                                                                                                                                                                               | standard   | 36/5180                 | OFDM | 1:1        | 14.00               | 13.06                 | 0.101      | 0.106                    | 0.102                             | 1.24           | 0.127                             | /        |
| Left Edge                                                                                                                                                                                                                                | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                               | N/A            | N/A                               | N/A      |
| Right Edge                                                                                                                                                                                                                               | standard   | 36/5180                 | OFDM | 1:1        | 14.00               | 13.06                 | -0.170     | 0.057                    | 0.074                             | 1.24           | 0.092                             | /        |
| Top Edge                                                                                                                                                                                                                                 | standard   | 36/5180                 | OFDM | 1:1        | 14.00               | 13.06                 | 0.000      | 0.044                    | 0.103                             | 1.24           | 0.128                             | /        |
| Bottom Edge                                                                                                                                                                                                                              | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                                                                                                                                                                                                | Battery 2  | 36/5180                 | OFDM | 1:1        | 14.00               | 13.06                 | 0.014      | 0.134                    | 0.109                             | 1.24           | 0.135                             | /        |
| Back Side                                                                                                                                                                                                                                | Battery 3  | 36/5180                 | OFDM | 1:1        | 14.00               | 13.06                 | 0.006      | 0.127                    | 0.100                             | 1.24           | 0.124                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.<br>2. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required. |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |





Table 35: Wi-Fi (5G, Antenna 1, U-NII-2C)

| Test Position                                                                       | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>1g</sub> (W/kg)  | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg)  | Plot No. |
|-------------------------------------------------------------------------------------|------------|-------------------------|------|------------|---------------------|-----------------------|------------|--------------------------|------------------------------------|----------------|------------------------------------|----------|
| Head SAR (802.11ac HT80, REC On)                                                    |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| Left Cheek                                                                          | standard   | 106/5530                | OFDM | 1:1        | 11.00               | 9.69                  | -0.149     | 0.412                    | 0.290                              | 1.35           | 0.392                              | /        |
| Left Tilt                                                                           | standard   | 106/5530                | OFDM | 1:1        | 11.00               | 9.69                  | -0.130     | 0.315                    | 0.218                              | 1.35           | 0.295                              | /        |
| Right Cheek                                                                         | standard   | 106/5530                | OFDM | 1:1        | 11.00               | 9.69                  | 0.000      | 0.066                    | 0.123                              | 1.35           | 0.166                              | /        |
| Right Tilt                                                                          | standard   | 106/5530                | OFDM | 1:1        | 11.00               | 9.69                  | 0.000      | 0.088                    | 0.148                              | 1.35           | 0.200                              | /        |
| Left Cheek                                                                          | Battery 2  | 106/5530                | OFDM | 1:1        | 11.00               | 9.69                  | -0.040     | 0.422                    | 0.369                              | 1.35           | 0.499                              | /        |
| Left Cheek                                                                          | Battery 3  | 106/5530                | OFDM | 1:1        | 11.00               | 9.69                  | 0.055      | 0.356                    | 0.398                              | 1.35           | 0.538                              | 139      |
| Body-worn (802.11a, REC Off, Distance 15mm)                                         |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| Back Side                                                                           | standard   | 140/5700                | OFDM | 1:1        | 14.00               | 13.00                 | 0.000      | 0.198                    | 0.142                              | 1.26           | 0.179                              | 140      |
| Front Side                                                                          | standard   | 140/5700                | OFDM | 1:1        | 14.00               | 13.00                 | 0.000      | 0.043                    | 0.046                              | 1.26           | 0.058                              | /        |
| Back Side                                                                           | Battery 2  | 140/5700                | OFDM | 1:1        | 14.00               | 13.00                 | 0.015      | 0.185                    | 0.130                              | 1.26           | 0.164                              | /        |
| Back Side                                                                           | Battery 3  | 140/5700                | OFDM | 1:1        | 14.00               | 13.00                 | 0.008      | 0.200                    | 0.136                              | 1.26           | 0.171                              | /        |
| Test Position                                                                       | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>10g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>10g</sub> (W/kg) | Plot No. |
| Product Specific 10-g SAR (802.11a, REC Off, Distance 0mm)                          |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| Back Side                                                                           | standard   | 140/5700                | OFDM | 1:1        | 14.00               | 13.00                 | 0.000      | 0.475                    | 0.388                              | 1.26           | 0.488                              | 141      |
| Front Side                                                                          | standard   | 140/5700                | OFDM | 1:1        | 14.00               | 13.00                 | 0.000      | 0.136                    | 0.126                              | 1.26           | 0.159                              | /        |
| Left Edge                                                                           | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                                | N/A            | N/A                                | N/A      |
| Right Edge                                                                          | standard   | 140/5700                | OFDM | 1:1        | 14.00               | 13.00                 | -0.026     | 0.259                    | 0.243                              | 1.26           | 0.306                              | /        |
| Top Edge                                                                            | standard   | 140/5700                | OFDM | 1:1        | 14.00               | 13.00                 | 0.000      | 0.119                    | 0.089                              | 1.26           | 0.112                              | /        |
| Bottom Edge                                                                         | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                                | N/A            | N/A                                | N/A      |
| Back Side                                                                           | Battery 2  | 140/5700                | OFDM | 1:1        | 14.00               | 13.00                 | 0.080      | 0.375                    | 0.365                              | 1.26           | 0.460                              | /        |
| Back Side                                                                           | Battery 3  | 140/5700                | OFDM | 1:1        | 14.00               | 13.00                 | 0.004      | 0.386                    | 0.372                              | 1.26           | 0.468                              | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.      |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| 2. For band U-NII-2C is not support hotspot, Product Specific 10-g SAR is required. |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |



Table 36: Wi-Fi (5G, Antenna 1, U-NII-3)

| Test Position                                                                                                                                                                                                                           | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------|------|------------|---------------------|-----------------------|------------|--------------------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Head SAR (802.11ac HT80, REC On)</b>                                                                                                                                                                                                 |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |
| Left Cheek                                                                                                                                                                                                                              | standard   | 155/5775                | OFDM | 1:1        | 11.00               | 9.88                  | 0.031      | 0.486                    | 0.317                             | 1.29           | 0.410                             | /        |
| Left Tilt                                                                                                                                                                                                                               | standard   | 155/5775                | OFDM | 1:1        | 11.00               | 9.88                  | 0.034      | 0.352                    | 0.229                             | 1.29           | 0.296                             | /        |
| Right Cheek                                                                                                                                                                                                                             | standard   | 155/5775                | OFDM | 1:1        | 11.00               | 9.88                  | 0.000      | 0.139                    | 0.213                             | 1.29           | 0.276                             | /        |
| Right Tilt                                                                                                                                                                                                                              | standard   | 155/5775                | OFDM | 1:1        | 11.00               | 9.88                  | 0.000      | 0.131                    | 0.178                             | 1.29           | 0.230                             | /        |
| Left Cheek                                                                                                                                                                                                                              | Battery 2  | 155/5775                | OFDM | 1:1        | 11.00               | 9.88                  | 0.033      | 0.397                    | 0.332                             | 1.29           | 0.430                             | 142      |
| Left Cheek                                                                                                                                                                                                                              | Battery 3  | 155/5775                | OFDM | 1:1        | 11.00               | 9.88                  | 0.137      | 0.315                    | 0.323                             | 1.29           | 0.418                             | /        |
| <b>Body-worn (802.11a, REC Off, Distance 15mm)</b>                                                                                                                                                                                      |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                               | standard   | 165/5825                | OFDM | 1:1        | 14.00               | 12.91                 | 0.000      | 0.226                    | 0.203                             | 1.29           | 0.261                             | 143      |
| Front Side                                                                                                                                                                                                                              | standard   | 165/5825                | OFDM | 1:1        | 14.00               | 12.91                 | 0.000      | 0.060                    | 0.058                             | 1.29           | 0.074                             | /        |
| <b>Hotspot (802.11a, REC Off, Distance 10mm)</b>                                                                                                                                                                                        |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                               | standard   | 165/5825                | OFDM | 1:1        | 14.00               | 12.91                 | 0.000      | 0.242                    | 0.180                             | 1.29           | 0.231                             | 144      |
| Front Side                                                                                                                                                                                                                              | standard   | 165/5825                | OFDM | 1:1        | 14.00               | 12.91                 | 0.000      | 0.106                    | 0.118                             | 1.29           | 0.152                             | /        |
| Left Edge                                                                                                                                                                                                                               | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                               | N/A            | N/A                               | N/A      |
| Right Edge                                                                                                                                                                                                                              | standard   | 165/5825                | OFDM | 1:1        | 14.00               | 12.91                 | -0.043     | 0.110                    | 0.089                             | 1.29           | 0.114                             | /        |
| Top Edge                                                                                                                                                                                                                                | standard   | 165/5825                | OFDM | 1:1        | 14.00               | 12.91                 | 0.000      | 0.026                    | 0.056                             | 1.29           | 0.072                             | /        |
| Bottom Edge                                                                                                                                                                                                                             | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                                                                                                                                                                                               | Battery 2  | 165/5825                | OFDM | 1:1        | 14.00               | 12.91                 | 0.045      | 0.227                    | 0.175                             | 1.29           | 0.225                             | /        |
| Back Side                                                                                                                                                                                                                               | Battery 3  | 165/5825                | OFDM | 1:1        | 14.00               | 12.91                 | 0.006      | 0.230                    | 0.171                             | 1.29           | 0.220                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.<br>2. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is no required. |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |



Table 37: Wi-Fi (5G, Antenna 2, U-NII-2A)

| Test Position                                                                       | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>1g</sub> (W/kg)  | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg)  | Plot No. |
|-------------------------------------------------------------------------------------|------------|-------------------------|------|------------|---------------------|-----------------------|------------|--------------------------|------------------------------------|----------------|------------------------------------|----------|
| Head SAR (802.11a, REC On)                                                          |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| Left Cheek                                                                          | standard   | 56/5280                 | OFDM | 1:1        | 10.50               | 9.44                  | 0.192      | 0.297                    | 0.347                              | 1.28           | 0.443                              | 145      |
| Left Tilt                                                                           | standard   | 56/5280                 | OFDM | 1:1        | 10.50               | 9.44                  | 0.100      | 0.286                    | 0.303                              | 1.28           | 0.387                              | /        |
| Right Cheek                                                                         | standard   | 56/5280                 | OFDM | 1:1        | 10.50               | 9.44                  | 0.180      | 0.329                    | 0.209                              | 1.28           | 0.267                              | /        |
| Right Tilt                                                                          | standard   | 56/5280                 | OFDM | 1:1        | 10.50               | 9.44                  | -0.195     | 0.496                    | 0.273                              | 1.28           | 0.348                              | /        |
| Left Cheek                                                                          | Battery 2  | 56/5280                 | OFDM | 1:1        | 10.50               | 9.44                  | 0.026      | 0.198                    | 0.259                              | 1.28           | 0.331                              | /        |
| Left Cheek                                                                          | Battery 3  | 56/5280                 | OFDM | 1:1        | 10.50               | 9.44                  | -0.180     | 0.219                    | 0.298                              | 1.28           | 0.380                              | /        |
| Body-worn (802.11a, REC Off, Distance 15mm)                                         |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| Back Side                                                                           | standard   | 64/5320                 | OFDM | 1:1        | 12.50               | 11.36                 | 0.000      | 0.028                    | 0.027                              | 1.30           | 0.035                              | 146      |
| Front Side                                                                          | standard   | 64/5320                 | OFDM | 1:1        | 12.50               | 11.36                 | 0.000      | 0.018                    | 0.005                              | 1.30           | 0.007                              | /        |
| Back Side                                                                           | Battery 2  | 64/5320                 | OFDM | 1:1        | 12.50               | 11.36                 | 0.004      | 0.024                    | 0.023                              | 1.30           | 0.030                              | /        |
| Back Side                                                                           | Battery 3  | 64/5320                 | OFDM | 1:1        | 12.50               | 11.36                 | 0.102      | 0.026                    | 0.026                              | 1.30           | 0.034                              | /        |
| Test Position                                                                       | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>10g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>10g</sub> (W/kg) | Plot No. |
| Product Specific 10-g SAR (802.11a, REC Off, Distance 0mm)                          |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| Back Side                                                                           | standard   | 64/5320                 | OFDM | 1:1        | 12.50               | 11.36                 | 0.000      | 0.114                    | 0.239                              | 1.30           | 0.311                              | 147      |
| Front Side                                                                          | standard   | 64/5320                 | OFDM | 1:1        | 12.50               | 11.36                 | 0.000      | 0.240                    | 0.181                              | 1.30           | 0.235                              | /        |
| Left Edge                                                                           | standard   | 64/5320                 | OFDM | 1:1        | 12.50               | 11.36                 | 0.007      | 0.013                    | 0.024                              | 1.30           | 0.031                              | /        |
| Right Edge                                                                          | standard   | 64/5320                 | OFDM | 1:1        | 12.50               | 11.36                 | 0.016      | 0.007                    | 0.001                              | 1.30           | 0.001                              | /        |
| Top Edge                                                                            | standard   | 64/5320                 | OFDM | 1:1        | 12.50               | 11.36                 | -0.040     | 0.025                    | 0.067                              | 1.30           | 0.088                              | /        |
| Bottom Edge                                                                         | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                                | N/A            | N/A                                | N/A      |
| Back Side                                                                           | Battery 2  | 64/5320                 | OFDM | 1:1        | 12.50               | 11.36                 | 0.080      | 0.110                    | 0.234                              | 1.30           | 0.304                              | /        |
| Back Side                                                                           | Battery 3  | 64/5320                 | OFDM | 1:1        | 12.50               | 11.36                 | 0.013      | 0.099                    | 0.230                              | 1.30           | 0.299                              | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.      |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| 2. For band U-NII-2A is not support hotspot, Product Specific 10-g SAR is required. |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |

**Table 38: Wi-Fi (5G, Antenna 2, U-NII-1)**

Per 248227, for band U-NII-1 and U-NII-2A, when the same maximum output power is specified for both bands, begin SAR measurement in U-NII-2A band by applying the OFDM SAR requirements. If the highest reported SAR for a test configuration is  $\leq 1.2$  W/kg, SAR is not required for U-NII-1 band for that configuration (802.11 mode and exposure condition); otherwise, each band is tested independently for SAR.

| Test Position                                                                                                                                                                                                                           | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------|------|------------|---------------------|-----------------------|------------|--------------------------|-----------------------------------|----------------|-----------------------------------|----------|
| <b>Hotspot (802.11a, REC Off, Distance 10mm)</b>                                                                                                                                                                                        |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                               | standard   | 36/5180                 | OFDM | 1:1        | 12.50               | 11.51                 | 0.000      | 0.064                    | 0.063                             | 1.26           | 0.079                             | 148      |
| Front Side                                                                                                                                                                                                                              | standard   | 36/5180                 | OFDM | 1:1        | 12.50               | 11.51                 | 0.000      | 0.022                    | 0.012                             | 1.26           | 0.015                             | /        |
| Left Edge                                                                                                                                                                                                                               | standard   | 36/5180                 | OFDM | 1:1        | 12.50               | 11.51                 | 0.001      | 0.008                    | 0.008                             | 1.26           | 0.010                             | /        |
| Right Edge                                                                                                                                                                                                                              | standard   | 36/5180                 | OFDM | 1:1        | 12.50               | 11.51                 | 0.004      | 0.005                    | 0.006                             | 1.26           | 0.008                             | /        |
| Top Edge                                                                                                                                                                                                                                | standard   | 36/5180                 | OFDM | 1:1        | 12.50               | 11.51                 | -0.050     | 0.015                    | 0.026                             | 1.26           | 0.033                             | /        |
| Bottom Edge                                                                                                                                                                                                                             | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                                                                                                                                                                                               | Battery 2  | 36/5180                 | OFDM | 1:1        | 12.50               | 11.51                 | 0.010      | 0.059                    | 0.060                             | 1.26           | 0.075                             | /        |
| Back Side                                                                                                                                                                                                                               | Battery 3  | 36/5180                 | OFDM | 1:1        | 12.50               | 11.51                 | 0.006      | 0.055                    | 0.057                             | 1.26           | 0.072                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.<br>2. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is no required. |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |



Table 39: Wi-Fi (5G, Antenna 2, U-NII-2C)

| Test Position                                                                       | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>1g</sub> (W/kg)  | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg)  | Plot No. |
|-------------------------------------------------------------------------------------|------------|-------------------------|------|------------|---------------------|-----------------------|------------|--------------------------|------------------------------------|----------------|------------------------------------|----------|
| Head SAR (802.11a, REC On)                                                          |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| Left Cheek                                                                          | standard   | 100/5500                | OFDM | 1:1        | 10.50               | 9.71                  | -0.073     | 0.134                    | 0.108                              | 1.20           | 0.130                              | /        |
| Left Tilt                                                                           | standard   | 100/5500                | OFDM | 1:1        | 10.50               | 9.71                  | -0.030     | 0.272                    | 0.273                              | 1.20           | 0.327                              | /        |
| Right Cheek                                                                         | standard   | 100/5500                | OFDM | 1:1        | 10.50               | 9.71                  | -0.197     | 0.535                    | 0.371                              | 1.20           | 0.445                              | 149      |
| Right Tilt                                                                          | standard   | 100/5500                | OFDM | 1:1        | 10.50               | 9.71                  | 0.090      | 0.234                    | 0.333                              | 1.20           | 0.399                              | /        |
| Right Cheek                                                                         | Battery 2  | 100/5500                | OFDM | 1:1        | 10.50               | 9.71                  | -0.051     | 0.316                    | 0.101                              | 1.20           | 0.121                              | /        |
| Right Cheek                                                                         | Battery 3  | 100/5500                | OFDM | 1:1        | 10.50               | 9.71                  | -0.113     | 0.435                    | 0.219                              | 1.20           | 0.263                              | /        |
| Body-worn (802.11a, REC Off, Distance 15mm)                                         |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| Back Side                                                                           | standard   | 116/5580                | OFDM | 1:1        | 12.50               | 11.72                 | 0.000      | 0.377                    | 0.333                              | 1.20           | 0.399                              | 150      |
| Front Side                                                                          | standard   | 116/5580                | OFDM | 1:1        | 12.50               | 11.72                 | 0.000      | 0.189                    | 0.102                              | 1.20           | 0.122                              | /        |
| Back Side                                                                           | Battery 2  | 116/5580                | OFDM | 1:1        | 12.50               | 11.72                 | 0.005      | 0.360                    | 0.329                              | 1.20           | 0.394                              | /        |
| Back Side                                                                           | Battery 3  | 116/5580                | OFDM | 1:1        | 12.50               | 11.72                 | 0.013      | 0.371                    | 0.325                              | 1.20           | 0.389                              | /        |
| Test Position                                                                       | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>10g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>10g</sub> (W/kg) | Plot No. |
| Product Specific 10-g SAR (802.11a, REC Off, Distance 0mm)                          |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| Back Side                                                                           | standard   | 116/5580                | OFDM | 1:1        | 12.50               | 11.72                 | 0.000      | 0.106                    | 0.266                              | 1.20           | 0.318                              | 151      |
| Front Side                                                                          | standard   | 116/5580                | OFDM | 1:1        | 12.50               | 11.72                 | 0.000      | 0.114                    | 0.221                              | 1.20           | 0.264                              | /        |
| Left Edge                                                                           | standard   | 116/5580                | OFDM | 1:1        | 12.50               | 11.72                 | 0.005      | 0.027                    | 0.020                              | 1.20           | 0.024                              | /        |
| Right Edge                                                                          | standard   | 116/5580                | OFDM | 1:1        | 12.50               | 11.72                 | 0.000      | 0.004                    | 0.009                              | 1.20           | 0.011                              | /        |
| Top Edge                                                                            | standard   | 116/5580                | OFDM | 1:1        | 12.50               | 11.72                 | -0.070     | 0.042                    | 0.054                              | 1.20           | 0.065                              | /        |
| Bottom Edge                                                                         | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                                | N/A            | N/A                                | N/A      |
| Back Side                                                                           | Battery 2  | 116/5580                | OFDM | 1:1        | 12.50               | 11.72                 | 0.005      | 0.099                    | 0.260                              | 1.20           | 0.311                              | /        |
| Back Side                                                                           | Battery 3  | 116/5580                | OFDM | 1:1        | 12.50               | 11.72                 | 0.013      | 0.100                    | 0.261                              | 1.20           | 0.312                              | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.      |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |
| 2. For band U-NII-2C is not support hotspot, Product Specific 10-g SAR is required. |            |                         |      |            |                     |                       |            |                          |                                    |                |                                    |          |



Table 40: Wi-Fi (5G, Antenna 2, U-NII-3)

| Test Position                                                                                                                                         | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Area Scan Max.SAR (W/Kg) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------|------|------------|---------------------|-----------------------|------------|--------------------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR (802.11a, REC On)                                                                                                                            |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |
| Left Cheek                                                                                                                                            | standard   | 149/5745                | OFDM | 1:1        | 10.50               | 9.51                  | 0.083      | 0.085                    | 0.142                             | 1.26           | 0.178                             | /        |
| Left Tilt                                                                                                                                             | standard   | 149/5745                | OFDM | 1:1        | 10.50               | 9.51                  | 0.000      | 0.094                    | 0.089                             | 1.26           | 0.112                             | /        |
| Right Cheek                                                                                                                                           | standard   | 149/5745                | OFDM | 1:1        | 10.50               | 9.51                  | -0.116     | 0.233                    | 0.164                             | 1.26           | 0.206                             | 152      |
| Right Tilt                                                                                                                                            | standard   | 149/5745                | OFDM | 1:1        | 10.50               | 9.51                  | 0.103      | 0.170                    | 0.121                             | 1.26           | 0.152                             | /        |
| Right Cheek                                                                                                                                           | Battery 2  | 149/5745                | OFDM | 1:1        | 10.50               | 9.51                  | 0.055      | 0.106                    | 0.105                             | 1.26           | 0.132                             | /        |
| Right Cheek                                                                                                                                           | Battery 3  | 149/5745                | OFDM | 1:1        | 10.50               | 9.51                  | 0.069      | 0.129                    | 0.142                             | 1.26           | 0.178                             | /        |
| Body-worn (802.11a, REC Off, Distance 15mm)                                                                                                           |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                             | standard   | 149/5745                | OFDM | 1:1        | 12.50               | 11.28                 | 0.011      | 0.107                    | 0.075                             | 1.32           | 0.099                             | 153      |
| Front Side                                                                                                                                            | standard   | 149/5745                | OFDM | 1:1        | 12.50               | 11.28                 | 0.120      | 0.0205                   | 0.024                             | 1.32           | 0.031                             | /        |
| Hotspot (802.11a, REC Off, Distance 10mm)                                                                                                             |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |
| Back Side                                                                                                                                             | standard   | 149/5745                | OFDM | 1:1        | 12.50               | 11.28                 | 0.000      | 0.101                    | 0.120                             | 1.32           | 0.159                             | 154      |
| Front Side                                                                                                                                            | standard   | 149/5745                | OFDM | 1:1        | 12.50               | 11.28                 | 0.000      | 0.048                    | 0.081                             | 1.32           | 0.107                             | /        |
| Left Edge                                                                                                                                             | standard   | 149/5745                | OFDM | 1:1        | 12.50               | 11.28                 | 0.014      | 0.006                    | 0.005                             | 1.32           | 0.007                             | /        |
| Right Edge                                                                                                                                            | standard   | 149/5745                | OFDM | 1:1        | 12.50               | 11.28                 | 0.000      | 0.014                    | 0.001                             | 1.32           | 0.002                             | /        |
| Top Edge                                                                                                                                              | standard   | 149/5745                | OFDM | 1:1        | 12.50               | 11.28                 | -0.075     | 0.004                    | 0.011                             | 1.32           | 0.015                             | /        |
| Bottom Edge                                                                                                                                           | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                      | N/A                               | N/A            | N/A                               | N/A      |
| Back Side                                                                                                                                             | Battery 2  | 149/5745                | OFDM | 1:1        | 12.50               | 11.28                 | 0.002      | 0.112                    | 0.115                             | 1.32           | 0.152                             | /        |
| Back Side                                                                                                                                             | Battery 3  | 149/5745                | OFDM | 1:1        | 12.50               | 11.28                 | 0.018      | 0.105                    | 0.109                             | 1.32           | 0.144                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.                                                                        |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |
| 2. According to 648474 D04 Handset SAR v01r03. For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is no required. |            |                         |      |            |                     |                       |            |                          |                                   |                |                                   |          |



Table 41: BT

| Test Position                                                                                                                                                                                                                            | Cover Type | Channel/Frequency (MHz) | Mode | Duty Cycle | Tune-up limit (dBm) | Conducted Power (dBm) | Drift (dB) | Measured SAR <sub>1g</sub> (W/kg) | Scaling Factor | Reported SAR <sub>1g</sub> (W/kg) | Plot No. |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------------------------|------|------------|---------------------|-----------------------|------------|-----------------------------------|----------------|-----------------------------------|----------|
| Head SAR (REC On)                                                                                                                                                                                                                        |            |                         |      |            |                     |                       |            |                                   |                |                                   |          |
| Left Cheek                                                                                                                                                                                                                               | standard   | 39/2441                 | GFSK | 1:1        | 13.10               | 12.84                 | 0.105      | 0.294                             | 1.06           | 0.312                             | 155      |
| Left Tilt                                                                                                                                                                                                                                | standard   | 39/2441                 | GFSK | 1:1        | 13.10               | 12.84                 | 0.000      | 0.238                             | 1.06           | 0.253                             | /        |
| Right Cheek                                                                                                                                                                                                                              | standard   | 39/2441                 | GFSK | 1:1        | 13.10               | 12.84                 | 0.038      | 0.123                             | 1.06           | 0.131                             | /        |
| Right Tilt                                                                                                                                                                                                                               | standard   | 39/2441                 | GFSK | 1:1        | 13.10               | 12.84                 | 0.080      | 0.122                             | 1.06           | 0.130                             | /        |
| Right Cheek                                                                                                                                                                                                                              | Battery 2  | 39/2441                 | GFSK | 1:1        | 13.10               | 12.84                 | 0.023      | 0.290                             | 1.06           | 0.308                             | /        |
| Right Cheek                                                                                                                                                                                                                              | Battery 3  | 39/2441                 | GFSK | 1:1        | 13.10               | 12.84                 | 0.012      | 0.287                             | 1.06           | 0.305                             | /        |
| Hotspot (REC Off, Distance 10mm)                                                                                                                                                                                                         |            |                         |      |            |                     |                       |            |                                   |                |                                   |          |
| Back Side                                                                                                                                                                                                                                | standard   | 39/2441                 | GFSK | 1:1        | 13.10               | 12.84                 | -0.115     | 0.039                             | 1.06           | 0.042                             | /        |
| Front Side                                                                                                                                                                                                                               | standard   | 39/2441                 | GFSK | 1:1        | 13.10               | 12.84                 | -0.040     | 0.052                             | 1.06           | 0.055                             | 156      |
| Left Edge                                                                                                                                                                                                                                | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Right Edge                                                                                                                                                                                                                               | standard   | 39/2441                 | GFSK | 1:1        | 13.10               | 12.84                 | 0.050      | 0.031                             | 1.06           | 0.033                             | /        |
| Top Edge                                                                                                                                                                                                                                 | standard   | 39/2441                 | GFSK | 1:1        | 13.10               | 12.84                 | 0.028      | 0.042                             | 1.06           | 0.044                             | /        |
| Bottom Edge                                                                                                                                                                                                                              | N/A        | N/A                     | N/A  | N/A        | N/A                 | N/A                   | N/A        | N/A                               | N/A            | N/A                               | N/A      |
| Front Side                                                                                                                                                                                                                               | Battery 2  | 39/2441                 | GFSK | 1:1        | 13.10               | 12.84                 | 0.032      | 0.048                             | 1.06           | 0.051                             | /        |
| Front Side                                                                                                                                                                                                                               | Battery 3  | 39/2441                 | GFSK | 1:1        | 13.10               | 12.84                 | -0.053     | 0.050                             | 1.06           | 0.053                             | /        |
| Note: 1. The value with blue color is the maximum SAR Value of each test band.<br>2. According to 648474 D04 Handset SAR v01r03, For Phablet, Since hotspot mode 1-g reported SAR < 1.2 W/kg, Product Specific 10-g SAR is not required. |            |                         |      |            |                     |                       |            |                                   |                |                                   |          |



| Band                                                                                                                                                                                                                                                                                                                                                                                                                                                           |         | Configuration | Frequency (MHz) | Maximum Power (dBm) | Separation Distance (mm) | Estimated SAR (W/kg) |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|---------------|-----------------|---------------------|--------------------------|----------------------|
| Wi-Fi 2.4G Antenna 1                                                                                                                                                                                                                                                                                                                                                                                                                                           | 802.11b | Extremity     | 2462            | 18.50               | 5                        | 1.185                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 802.11g | Extremity     | 2462            | 16.50               | 5                        | 0.748                |
| Wi-Fi 2.4G Antenna 2                                                                                                                                                                                                                                                                                                                                                                                                                                           | 802.11b | Extremity     | 2462            | 18.00               | 5                        | 1.056                |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 802.11g | Extremity     | 2462            | 16.00               | 5                        | 0.666                |
| <p>For simultaneous transmission analysis, Bluetooth SAR is estimated per KDB 447498 D01 based on the formula below.</p> <p><math>(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm}) \cdot [\sqrt{f(\text{GHz})} / x] \text{ W/kg}</math></p> <p>for test separation distances <math>\leq 50 \text{ mm}</math>; where <math>x = 7.5</math> for 1-g SAR, and <math>x = 18.75</math> for 10-g SAR.</p> |         |               |                 |                     |                          |                      |



## 10.4 Simultaneous Transmission Analysis

| Simultaneous Transmission Configurations                  | Head | Body-worn | Hotspot | Product Specific 10-g SAR |
|-----------------------------------------------------------|------|-----------|---------|---------------------------|
| GSM Voice (Ant 1) + BT                                    | Yes  | Yes       | N/A     | Yes                       |
| GSM DATA (Ant 1) + BT                                     | N/A  | Yes       | N/A     | Yes                       |
| GSM Voice (Ant 2) + BT                                    | Yes  | Yes       | N/A     | Yes                       |
| GSM DATA (Ant 2) + BT                                     | N/A  | Yes       | N/A     | Yes                       |
| GSM Voice (Ant 1) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)       | Yes  | Yes       | N/A     | Yes                       |
| GSM DATA (Ant 1) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)        | N/A  | Yes       | Yes     | Yes                       |
| GSM Voice (Ant 2) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)       | Yes  | Yes       | N/A     | Yes                       |
| GSM DATA (Ant 2) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)        | N/A  | Yes       | Yes     | Yes                       |
| GSM Voice (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)         | Yes  | Yes       | N/A     | Yes                       |
| GSM DATA (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)          | N/A  | Yes       | Yes     | Yes                       |
| GSM Voice (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)         | Yes  | Yes       | N/A     | Yes                       |
| GSM DATA (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)          | N/A  | Yes       | Yes     | Yes                       |
| GSM Voice (Ant 1) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2) | Yes  | Yes       | N/A     | Yes                       |
| GSM DATA (Ant 1) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)  | N/A  | Yes       | Yes     | Yes                       |
| GSM Voice (Ant 2) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2) | Yes  | Yes       | N/A     | Yes                       |
| GSM DATA (Ant 2) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)  | N/A  | Yes       | Yes     | Yes                       |
| GSM Voice (Ant 1) + Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1) | Yes  | Yes       | N/A     | Yes                       |
| GSM Voice (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT    | Yes  | Yes       | N/A     | Yes                       |
| GSM DATA (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT     | N/A  | Yes       | Yes     | Yes                       |
| GSM Voice (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT    | Yes  | Yes       | N/A     | Yes                       |
| GSM DATA (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT     | N/A  | Yes       | Yes     | Yes                       |
| UMTS (Ant 1) + BT                                         | Yes  | Yes       | N/A     | Yes                       |
| UMTS (Ant 2) + BT                                         | Yes  | Yes       | N/A     | Yes                       |
| UMTS (Ant 1) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)            | Yes  | Yes       | Yes     | Yes                       |
| UMTS (Ant 2) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)            | Yes  | Yes       | Yes     | Yes                       |
| UMTS (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)              | Yes  | Yes       | Yes     | Yes                       |
| UMTS (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)              | Yes  | Yes       | Yes     | Yes                       |
| UMTS (Ant 1) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)      | Yes  | Yes       | Yes     | Yes                       |
| UMTS (Ant 2) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)      | Yes  | Yes       | Yes     | Yes                       |
| UMTS (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT         | Yes  | Yes       | Yes     | Yes                       |
| UMTS (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT         | Yes  | Yes       | Yes     | Yes                       |
| LTE (Ant 1) + BT                                          | Yes  | Yes       | N/A     | Yes                       |
| LTE (Ant 2) + BT                                          | Yes  | Yes       | N/A     | Yes                       |
| LTE (Ant 1) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)             | Yes  | Yes       | Yes     | Yes                       |
| LTE (Ant 2) + Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO)             | Yes  | Yes       | Yes     | Yes                       |
| LTE (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)               | Yes  | Yes       | Yes     | Yes                       |
| LTE (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO)               | Yes  | Yes       | Yes     | Yes                       |



|                                                     |     |     |     |     |
|-----------------------------------------------------|-----|-----|-----|-----|
| LTE (Ant 1) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2) | Yes | Yes | Yes | Yes |
| LTE (Ant 2) + Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2) | Yes | Yes | Yes | Yes |
| LTE (Ant 1) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT    | Yes | Yes | Yes | Yes |
| LTE (Ant 2) + Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT    | Yes | Yes | Yes | Yes |
| Wi-Fi 2.4G (Ant 1/ Ant 2/ MIMO) + BT                | N/A | N/A | N/A | N/A |
| Wi-Fi 5G (Ant 1/ Ant 2/ MIMO) + BT                  | Yes | Yes | Yes | Yes |
| Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 1)               | N/A | N/A | N/A | N/A |
| Wi-Fi 2.4G (Ant 1) + Wi-Fi 5G (Ant 2)               | Yes | Yes | Yes | Yes |
| Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 1)               | Yes | Yes | Yes | Yes |
| Wi-Fi 2.4G (Ant 2) + Wi-Fi 5G (Ant 2)               | N/A | N/A | N/A | N/A |

**Note:**

- 1) Neither Wi-Fi 2.4G Ant.1 nor Wi-Fi 2.4G Ant.2 can transmit simultaneously with Bluetooth.
- 2) Wi-Fi 5G Ant.1 can transmit simultaneously with Bluetooth and Ant.2 also can transmit simultaneously with Bluetooth.
- 3) Wi-Fi 2.4G has two TX antennas. Wi-Fi 2.4G 802.11g/n support 2\*2 CDD/MIMO function.
- 4) Wi-Fi 5G has two TX antennas. Wi-Fi 5G 802.11 a/n/ac support 2\*2 CDD/MIMO function.
- 5) Wi-Fi 2.4G& Wi-Fi 5G can't work at same mode, but they can transmit simultaneously at different modes (Wi-Fi station/P-to-P) by using different Wi-Fi antennas. Only Wi-Fi 2.4G Ant1 station mode and Wi-Fi 5G Ant P-to-P mode or Wi-Fi 2.4G Ant1 P-to-P mode and Wi-Fi 5G Ant2 P-to-P mode can transmit simultaneously.
- 6) The device does not support DTM function.
- 7) \* VoLTE or pre-installed VOIP applications are considered.
- 8) The Main Antenna (Ant1) and Second Antenna (Ant 2) can't transmit simultaneously.
- 9) For Wi-Fi 5G, U-NII-2A (5250-5350 MHz) and U-NII-2C (5470-5725 MHz) bands does not support hotspot function.
- 10) The device supports Vo-WIFI function.

**General Note:**

1. The Scaled SAR summation is calculated based on the same configuration and test position.
2. Per KDB 447498 D01, simultaneous transmission SAR is compliant if,
  - i) Scalar SAR summation < 1.6W/kg, simultaneously transmission SAR measurement is not necessary.
  - ii)  $SPLSR = (SAR1 + SAR2)^{1.5} / (\text{min. separation distance, mm})$ , and the peak separation distance is determined from the square root of  $[(x1-x2)^2 + (y1-y2)^2 + (z1-z2)^2]$ , where (x1, y1, z1) and (x2, y2, z2) are the coordinates of the extrapolated peak SAR locations in the zoom scan.
  - iii) If  $SPLSR \leq 0.04$ , simultaneously transmission SAR measurement is not necessary.

**The maximum SAR<sub>1g</sub> Value for (Antenna 1)**

| SAR <sub>1g/10g</sub> (W/kg) |             | GSM   | GSM   | UMTS  | UMTS  | UMTS  | LTE   | LTE   | LTE   | LTE   | LTE   | LTE   | LTE   | LTE   | LTE   | MAX.                  |
|------------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----------------------|
| Test Position                |             | 850   | 1900  | 2     | 4     | 5     | 2     | 4     | 5     | 7     | 12    | 17    | 26    | 38    | 41    | SAR <sub>1g/10g</sub> |
| Left Cheek                   |             | 0.248 | 0.135 | 0.144 | 0.080 | 0.236 | 0.123 | 0.070 | 0.187 | 0.200 | 0.215 | 0.210 | 0.158 | 0.217 | 0.227 | 0.248                 |
| Left Tilt                    |             | 0.157 | 0.136 | 0.126 | 0.017 | 0.155 | 0.111 | 0.016 | 0.113 | 0.176 | 0.171 | 0.199 | 0.086 | 0.162 | 0.156 | 0.199                 |
| Right Cheek                  |             | 0.342 | 0.150 | 0.164 | 0.044 | 0.333 | 0.138 | 0.037 | 0.273 | 0.208 | 0.251 | 0.242 | 0.249 | 0.209 | 0.198 | 0.342                 |
| Right Tilt                   |             | 0.181 | 0.139 | 0.134 | 0.024 | 0.140 | 0.116 | 0.023 | 0.133 | 0.140 | 0.156 | 0.166 | 0.120 | 0.154 | 0.156 | 0.181                 |
| Body worn                    | Back Side   | 0.473 | 0.289 | 0.391 | 0.865 | 0.360 | 0.498 | 0.859 | 0.262 | 0.259 | 0.221 | 0.220 | 0.334 | 0.178 | 0.187 | 0.865                 |
|                              | Front Side  | 0.470 | 0.263 | 0.503 | 0.875 | 0.371 | 0.540 | 0.730 | 0.256 | 0.310 | 0.205 | 0.187 | 0.280 | 0.189 | 0.246 | 0.875                 |
| Hotspot                      | Back Side   | 0.891 | 0.222 | 0.301 | 0.489 | 0.532 | 0.287 | 0.444 | 0.393 | 0.536 | 0.292 | 0.296 | 0.464 | 0.296 | 0.412 | 0.891                 |
|                              | Front Side  | 0.694 | 0.262 | 0.379 | 0.493 | 0.517 | 0.292 | 0.449 | 0.377 | 0.603 | 0.294 | 0.257 | 0.424 | 0.452 | 0.298 | 0.694                 |
|                              | Left Edge   | 0.134 | 0.009 | 0.022 | 0.036 | 0.107 | 0.015 | 0.033 | 0.063 | 0.176 | 0.061 | 0.056 | 0.092 | 0.067 | 0.121 | 0.176                 |
|                              | Right Edge  | 0.459 | 0.040 | 0.057 | 0.096 | 0.281 | 0.053 | 0.088 | 0.252 | 0.135 | 0.216 | 0.240 | 0.278 | 0.130 | 0.146 | 0.459                 |
|                              | Top Edge    | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | 0                     |
|                              | Bottom Edge | 0.457 | 0.599 | 1.089 | 0.774 | 0.408 | 0.682 | 0.490 | 0.344 | 0.515 | 0.189 | 0.176 | 0.341 | 0.419 | 0.440 | 1.089                 |
| Product Specific 10-g SAR    | Back Side   | N/A   | N/A   | N/A   | 1.987 | N/A   | N/A   | 2.149 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | 2.149                 |
|                              | Front Side  | N/A   | N/A   | 1.851 | 1.900 | N/A   | N/A   | 2.496 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | 2.496                 |
|                              | Bottom Edge | N/A   | 1.527 | 2.537 | 2.699 | N/A   | 2.304 | 2.597 | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | 2.699                 |

**The maximum SAR<sub>1g</sub> Value for (Antenna 2)**

| SAR <sub>1g</sub> (W/kg) |             | GSM   | GSM   | UMTS  | UMTS  | UMTS  | LTE   | LTE   | LTE   | LTE   | LTE   | LTE   | LTE   | LTE   | LTE   | MAX.              |
|--------------------------|-------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------|
| Test Position            |             | 850   | 1900  | 2     | 4     | 5     | 2     | 4     | 5     | 7     | 12    | 17    | 26    | 38    | 41    | SAR <sub>1g</sub> |
| Left Cheek               |             | 0.373 | 0.363 | 0.347 | 0.305 | 0.387 | 0.390 | 0.220 | 0.361 | 0.280 | 0.354 | 0.331 | 0.280 | 0.341 | 0.368 | 0.390             |
| Left Tilt                |             | 0.296 | 0.261 | 0.285 | 0.292 | 0.315 | 0.368 | 0.196 | 0.293 | 0.254 | 0.282 | 0.293 | 0.254 | 0.404 | 0.360 | 0.404             |
| Right Cheek              |             | 0.377 | 0.296 | 0.316 | 0.422 | 0.366 | 0.281 | 0.368 | 0.358 | 0.441 | 0.327 | 0.308 | 0.342 | 0.216 | 0.409 | 0.441             |
| Right Tilt               |             | 0.340 | 0.224 | 0.254 | 0.381 | 0.334 | 0.270 | 0.300 | 0.354 | 0.344 | 0.379 | 0.334 | 0.369 | 0.167 | 0.277 | 0.381             |
| Body worn                | Back Side   | 0.249 | 0.153 | 0.303 | 0.325 | 0.283 | 0.237 | 0.208 | 0.232 | 0.130 | 0.194 | 0.136 | 0.240 | 0.134 | 0.201 | 0.325             |
|                          | Front Side  | 0.252 | 0.154 | 0.248 | 0.217 | 0.315 | 0.232 | 0.131 | 0.257 | 0.132 | 0.188 | 0.142 | 0.257 | 0.185 | 0.249 | 0.315             |
| Hotspot                  | Back Side   | 0.297 | 0.203 | 0.273 | 0.363 | 0.237 | 0.302 | 0.252 | 0.218 | 0.136 | 0.253 | 0.184 | 0.215 | 0.182 | 0.279 | 0.363             |
|                          | Front Side  | 0.291 | 0.185 | 0.277 | 0.264 | 0.282 | 0.282 | 0.233 | 0.253 | 0.097 | 0.131 | 0.144 | 0.213 | 0.184 | 0.275 | 0.291             |
|                          | Left Edge   | 0.135 | 0.099 | 0.156 | 0.200 | 0.120 | 0.174 | 0.150 | 0.118 | 0.130 | 0.074 | 0.205 | 0.114 | 0.139 | 0.191 | 0.205             |
|                          | Right Edge  | 0.035 | 0.017 | 0.021 | 0.031 | 0.032 | 0.044 | 0.028 | 0.025 | 0.005 | 0.247 | 0.030 | 0.026 | 0.020 | 0.036 | 0.247             |
|                          | Top Edge    | 0.223 | 0.144 | 0.227 | 0.185 | 0.018 | 0.269 | 0.103 | 0.162 | 0.149 | 0.042 | 0.197 | 0.159 | 0.179 | 0.285 | 0.285             |
|                          | Bottom Edge | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | N/A   | 0                 |

The maximum SAR<sub>1g/10g</sub> Value for Wi-Fi 2.4G (Ant 1/Ant 2/MIMO)

| SAR <sub>1g/10g</sub> (W/kg)<br>Test Position |             | Wi-Fi 2.4G<br>Ant 1 | Wi-Fi 2.4G<br>Ant 2 | Wi-Fi 2.4G CDD/MIMO |                  |              | MAX.<br>ΣSAR <sub>1g/10g</sub> |
|-----------------------------------------------|-------------|---------------------|---------------------|---------------------|------------------|--------------|--------------------------------|
|                                               |             | 802.11b             | 802.11b             | Ant 1<br>802.11g    | Ant 2<br>802.11g | SUM          |                                |
| Left, Cheek                                   |             | 0.558               | 0.224               | 0.582               | 0.136            | <b>0.718</b> | 0.718                          |
| Left, Tilt                                    |             | 0.530               | 0.153               | 0.563               | 0.113            | <b>0.676</b> | 0.676                          |
| Right, Cheek                                  |             | 0.208               | 0.101               | 0.244               | 0.085            | <b>0.329</b> | 0.329                          |
| Right, Tilt                                   |             | 0.222               | 0.109               | 0.277               | 0.084            | <b>0.361</b> | 0.361                          |
| Body worn                                     | Back Side   | 0.209               | <b>0.256</b>        | 0.131               | 0.007            | 0.138        | 0.256                          |
|                                               | Front Side  | <b>0.200</b>        | 0.007               | 0.127               | 0.002            | 0.129        | 0.200                          |
| Hotspot                                       | Back Side   | 0.400               | <b>0.630</b>        | 0.261               | 0.022            | 0.283        | 0.630                          |
|                                               | Front Side  | <b>0.380</b>        | 0.031               | 0.267               | 0.006            | 0.273        | 0.380                          |
|                                               | Left Edge   | N/A                 | <b>0.009</b>        | N/A                 | 0.001            | 0.001        | 0.009                          |
|                                               | Right Edge  | <b>0.383</b>        | 0.016               | 0.183               | 0.003            | 0.186        | 0.383                          |
|                                               | Top Edge    | <b>0.524</b>        | 0.076               | 0.308               | 0.004            | 0.312        | 0.524                          |
|                                               | Bottom Edge | N/A                 | N/A                 | N/A                 | N/A              | 0            | 0                              |
| Product<br>Specific 10-g<br>SAR               | Back Side   | 1.185               | 1.056               | 0.748               | 0.666            | <b>1.414</b> | 1.414                          |
|                                               | Front Side  | 1.185               | 1.056               | 0.748               | 0.666            | <b>1.414</b> | 1.414                          |
|                                               | Left Edge   | N/A                 | 1.056               | N/A                 | 0.666            | 0.666        | 1.056                          |
|                                               | Right Edge  | 1.185               | 1.056               | 0.748               | 0.666            | <b>1.414</b> | 1.414                          |
|                                               | Top Edge    | 1.185               | 1.056               | 0.748               | 0.666            | <b>1.414</b> | 1.414                          |
|                                               | Bottom Edge | N/A                 | N/A                 | N/A                 | N/A              | 0            | 0                              |

The maximum SAR<sub>1g/10g</sub> Value for Wi-Fi 5G (Ant 1/Ant 2/MIMO)

| SAR <sub>1g/10g</sub> (W/kg)<br>Test Position |             | Wi-Fi 5G Ant 1        |          |         | Wi-Fi 5G Ant 2        |          |         | Wi-Fi 5G CDD/MIMO     |              |              | MAX.<br>ΣSAR <sub>1g/10g</sub> |
|-----------------------------------------------|-------------|-----------------------|----------|---------|-----------------------|----------|---------|-----------------------|--------------|--------------|--------------------------------|
|                                               |             | U-NII-1 &<br>U-NII-2A | U-NII-2C | U-NII-3 | U-NII-1 &<br>U-NII-2A | U-NII-2C | U-NII-3 | U-NII-1 &<br>U-NII-2A | U-NII-2C     | U-NII-3      |                                |
| Left Cheek                                    |             | 0.449                 | 0.538    | 0.430   | 0.443                 | 0.130    | 0.178   | <b>0.892</b>          | 0.668        | 0.608        | 0.892                          |
| Left Tilt                                     |             | 0.317                 | 0.295    | 0.296   | 0.387                 | 0.327    | 0.112   | <b>0.704</b>          | 0.622        | 0.408        | 0.704                          |
| Right Cheek                                   |             | 0.207                 | 0.166    | 0.276   | 0.267                 | 0.445    | 0.206   | 0.474                 | <b>0.611</b> | 0.482        | 0.611                          |
| Right Tilt                                    |             | 0.183                 | 0.200    | 0.230   | 0.348                 | 0.399    | 0.152   | 0.531                 | <b>0.599</b> | 0.382        | 0.599                          |
| Body worn                                     | Back Side   | 0.161                 | 0.179    | 0.261   | 0.035                 | 0.399    | 0.099   | 0.196                 | <b>0.578</b> | 0.36         | 0.578                          |
|                                               | Front Side  | 0.067                 | 0.058    | 0.074   | 0.007                 | 0.122    | 0.031   | 0.074                 | <b>0.180</b> | 0.105        | 0.180                          |
| Hotspot                                       | Back Side   | 0.142                 | N/A      | 0.231   | 0.079                 | N/A      | 0.159   | 0.221                 | 0            | <b>0.390</b> | 0.390                          |
|                                               | Front Side  | 0.127                 | N/A      | 0.152   | 0.015                 | N/A      | 0.107   | 0.142                 | 0            | <b>0.259</b> | 0.259                          |
|                                               | Left Edge   | N/A                   | N/A      | N/A     | 0.010                 | N/A      | 0.007   | <b>0.010</b>          | 0            | 0.007        | 0.010                          |
|                                               | Right Edge  | 0.092                 | N/A      | 0.114   | 0.008                 | N/A      | 0.002   | 0.100                 | 0            | <b>0.116</b> | 0.116                          |
|                                               | Top Edge    | 0.128                 | N/A      | 0.072   | 0.033                 | N/A      | 0.015   | <b>0.161</b>          | 0            | 0.087        | 0.161                          |
|                                               | Bottom Edge | N/A                   | N/A      | N/A     | N/A                   | N/A      | N/A     | 0                     | 0            | 0            | 0                              |
| Product<br>Specific<br>10-g SAR               | Back Side   | 0.438                 | 0.488    | N/A     | 0.311                 | 0.318    | N/A     | 0.749                 | <b>0.806</b> | 0            | 0.806                          |
|                                               | Front Side  | 0.309                 | 0.159    | N/A     | 0.235                 | 0.264    | N/A     | <b>0.544</b>          | 0.423        | 0            | 0.544                          |
|                                               | Left Edge   | N/A                   | N/A      | N/A     | 0.031                 | 0.024    | N/A     | <b>0.031</b>          | 0.024        | 0            | 0.031                          |



|  |             |       |       |     |       |       |     |              |              |   |       |
|--|-------------|-------|-------|-----|-------|-------|-----|--------------|--------------|---|-------|
|  | Right Edge  | 0.293 | 0.306 | N/A | 0.001 | 0.011 | N/A | 0.294        | <b>0.317</b> | 0 | 0.317 |
|  | Top Edge    | 0.198 | 0.112 | N/A | 0.088 | 0.065 | N/A | <b>0.286</b> | 0.177        | 0 | 0.286 |
|  | Bottom Edge | N/A   | N/A   | N/A | N/A   | N/A   | N/A | 0            | 0            | 0 | 0     |

Wi-Fi 5G CDD/MIMO (U-NII-1 & U-NII-2A) = Wi-Fi 5G Ant 1 (U-NII-1 & U-NII-2A) + Wi-Fi 5G Ant 1 (U-NII-1 & U-NII-2A)

Wi-Fi 5G CDD/MIMO (U-NII-2C) = Wi-Fi 5G Ant 1 (U-NII-2C) + Wi-Fi 5G Ant 1 (U-NII-2C)

Wi-Fi 5G CDD/MIMO (U-NII-3) = Wi-Fi 5G Ant 1 (U-NII-3) + Wi-Fi 5G Ant 1 (U-NII-3)

**About Antenna 1 and Wi-Fi 2.4G (Ant 1/Ant 2/MIMO)**

| SAR <sub>1g/10g</sub> (W/kg) |             | Ant 1 | Wi-Fi 2.4G | MAX. $\Sigma$ SAR <sub>1g/10g</sub> |
|------------------------------|-------------|-------|------------|-------------------------------------|
| Test Position                |             |       |            |                                     |
| Left, Cheek                  |             | 0.248 | 0.718      | 0.966                               |
| Left, Tilt                   |             | 0.199 | 0.676      | 0.875                               |
| Right, Cheek                 |             | 0.342 | 0.329      | 0.671                               |
| Right, Tilt                  |             | 0.181 | 0.361      | 0.542                               |
| Body worn                    | Back Side   | 0.865 | 0.256      | 1.121                               |
|                              | Front Side  | 0.875 | 0.200      | 1.075                               |
| Hotspot                      | Back Side   | 0.891 | 0.630      | 1.521                               |
|                              | Front Side  | 0.694 | 0.380      | 1.074                               |
|                              | Left Edge   | 0.176 | 0.009      | 0.185                               |
|                              | Right Edge  | 0.459 | 0.383      | 0.842                               |
|                              | Top Edge    | 0     | 0.524      | 0.524                               |
|                              | Bottom Edge | 1.089 | 0          | 1.089                               |
| Product Specific 10-g SAR    | Back Side   | 2.149 | 1.414      | 3.563                               |
|                              | Front Side  | 2.496 | 1.414      | 3.910                               |
|                              | Bottom Edge | 2.699 | 0          | 2.699                               |

Note: 1. The value with blue color is the maximum  $\Sigma$ SAR<sub>1g/10g</sub> Value.  
2. MAX.  $\Sigma$ SAR<sub>1g/10g</sub> = Unlicensed SAR<sub>MAX</sub> + Licensed SAR<sub>MAX</sub>

MAX.  $\Sigma$ SAR<sub>1g</sub> = 1.521 W/kg < 1.6 W/kg and MAX.  $\Sigma$ SAR<sub>10g</sub> = 3.910 W/kg < 4.0 W/kg, so the Simultaneous transimition SAR with volum scan are not required for Antenna 1 and Wi-Fi 2.4G (Ant 1/Ant 2/MIMO).

**About Antenna 2 and Wi-Fi 2.4G (Ant 1/Ant 2/MIMO)**

| SAR <sub>1g</sub> (W/kg) |             | Ant 2 | Wi-Fi 2.4G | MAX. $\Sigma$ SAR <sub>1g</sub> |
|--------------------------|-------------|-------|------------|---------------------------------|
| Test Position            |             |       |            |                                 |
| Left, Cheek              |             | 0.390 | 0.718      | 1.108                           |
| Left, Tilt               |             | 0.404 | 0.676      | 1.080                           |
| Right, Cheek             |             | 0.441 | 0.329      | 0.770                           |
| Right, Tilt              |             | 0.381 | 0.361      | 0.742                           |
| Body worn                | Back Side   | 0.325 | 0.256      | 0.581                           |
|                          | Front Side  | 0.315 | 0.200      | 0.515                           |
| Hotspot                  | Back Side   | 0.363 | 0.630      | 0.993                           |
|                          | Front Side  | 0.291 | 0.380      | 0.671                           |
|                          | Left Edge   | 0.205 | 0.009      | 0.214                           |
|                          | Right Edge  | 0.247 | 0.383      | 0.630                           |
|                          | Top Edge    | 0.285 | 0.524      | 0.809                           |
|                          | Bottom Edge | 0     | 0          | 0                               |

Note: 1. The value with blue color is the maximum  $\Sigma$ SAR<sub>1g</sub> Value.  
2. MAX.  $\Sigma$ SAR<sub>1g</sub> = Unlicensed SAR<sub>MAX</sub> + Licensed SAR<sub>MAX</sub>

MAX.  $\Sigma$ SAR<sub>1g</sub> = 1.108 W/kg < 1.6 W/kg, so the Simultaneous transimition SAR with volum scan are not required for Antenna 2 and Wi-Fi 2.4G (Ant 1/Ant 2/MIMO).

**About Antenna 1 and Wi-Fi 5G (Ant 1/Ant 2/MIMO) and BT**

| SAR <sub>1g/10g</sub> (W/kg) |             | Ant 1 | Wi-Fi 5G | BT    | MAX. $\Sigma$ SAR <sub>1g/10g</sub> |
|------------------------------|-------------|-------|----------|-------|-------------------------------------|
| Test Position                |             |       |          |       |                                     |
| Left Cheek                   |             | 0.248 | 0.892    | 0.312 | 1.452                               |
| Left Tilt                    |             | 0.199 | 0.704    | 0.253 | 1.156                               |
| Right Cheek                  |             | 0.342 | 0.611    | 0.131 | 1.084                               |
| Right Tilt                   |             | 0.181 | 0.599    | 0.130 | 0.910                               |
| Body worn                    | Back Side   | 0.865 | 0.578    | 0.042 | 1.485                               |
|                              | Front Side  | 0.875 | 0.180    | 0.055 | 1.110                               |
| Hotspot                      | Back Side   | 0.891 | 0.390    | 0.042 | 1.323                               |
|                              | Front Side  | 0.694 | 0.259    | 0.055 | 1.008                               |
|                              | Left Edge   | 0.176 | 0.010    | N/A   | 0.186                               |
|                              | Right Edge  | 0.459 | 0.116    | 0.033 | 0.608                               |
|                              | Top Edge    | 0     | 0.161    | 0.044 | 0.205                               |
|                              | Bottom Edge | 1.089 | 0        | N/A   | 1.089                               |
| Product Specific 10-g SAR    | Back Side   | 2.149 | 0.806    | 0.343 | 3.298                               |
|                              | Front Side  | 2.496 | 0.544    | 0.343 | 3.383                               |
|                              | Left Edge   | N/A   | 0.031    | 0.343 | 0.374                               |
|                              | Right Edge  | N/A   | 0.317    | 0.343 | 0.660                               |
|                              | Top Edge    | N/A   | 0.286    | 0.343 | 0.629                               |
|                              | Bottom Edge | 2.699 | 0        | 0.343 | 3.042                               |

Note: 1. The value with blue color is the maximum  $\Sigma$ SAR<sub>1g/10g</sub> Value.

2. MAX.  $\Sigma$ SAR<sub>1g/10g</sub> = Unlicensed SAR<sub>MAX</sub> + Licensed SAR<sub>MAX</sub>

MAX.  $\Sigma$ SAR<sub>1g</sub> = 1.485 W/kg < 1.6 W/kg and MAX.  $\Sigma$ SAR<sub>10g</sub> = 3.383 W/kg < 4.0 W/kg, so the Simultaneous transimition SAR with volum scan are not required for Antenna 1 and Wi-Fi 5G (Ant 1/Ant 2/MIMO) and BT.

**About Antenna 2 and Wi-Fi 5G (Ant 1/Ant 2/MIMO) and BT**

| SAR <sub>1g/10g</sub> (W/kg) |             | Ant 2 | Wi-Fi 5G | BT    | MAX. $\Sigma$ SAR <sub>1g/10g</sub> |
|------------------------------|-------------|-------|----------|-------|-------------------------------------|
| Test Position                |             |       |          |       |                                     |
| Left Cheek                   |             | 0.390 | 0.892    | 0.312 | 1.594                               |
| Left Tilt                    |             | 0.404 | 0.704    | 0.253 | 1.361                               |
| Right Cheek                  |             | 0.441 | 0.611    | 0.131 | 1.183                               |
| Right Tilt                   |             | 0.381 | 0.599    | 0.130 | 1.110                               |
| Body worn                    | Back Side   | 0.325 | 0.578    | 0.042 | 0.945                               |
|                              | Front Side  | 0.315 | 0.180    | 0.055 | 0.550                               |
| Hotspot                      | Back Side   | 0.363 | 0.390    | 0.042 | 0.795                               |
|                              | Front Side  | 0.291 | 0.259    | 0.055 | 0.605                               |
|                              | Left Edge   | 0.205 | 0.010    | N/A   | 0.215                               |
|                              | Right Edge  | 0.247 | 0.116    | 0.033 | 0.396                               |
|                              | Top Edge    | 0.285 | 0.161    | 0.044 | 0.490                               |
|                              | Bottom Edge | 0     | 0        | N/A   | 0                                   |
| Product Specific 10-g        | Back Side   | N/A   | 0.806    | 0.343 | 1.149                               |
|                              | Front Side  | N/A   | 0.544    | 0.343 | 0.887                               |



|     |             |     |       |       |       |
|-----|-------------|-----|-------|-------|-------|
| SAR | Left Edge   | N/A | 0.031 | 0.343 | 0.374 |
|     | Right Edge  | N/A | 0.317 | 0.343 | 0.660 |
|     | Top Edge    | N/A | 0.286 | 0.343 | 0.629 |
|     | Bottom Edge | N/A | 0     | 0.343 | 0.343 |

Note: 1. The value with blue color is the maximum  $\Sigma SAR_{1g/10g}$  Value.

2. MAX.  $\Sigma SAR_{1g/10g} = \text{Unlicensed SAR}_{MAX} + \text{Licensed SAR}_{MAX}$

MAX.  $\Sigma SAR_{1g} = 1.594 \text{ W/kg} < 1.6 \text{ W/kg}$  and MAX.  $\Sigma SAR_{10g} = 1.149 \text{ W/kg} < 4.0 \text{ W/kg}$ , so the Simultaneous transimition SAR with volum scan are not required for Antenna 2 and Wi-Fi 5G (Ant 1/Ant 2/MIMO) and BT.

#### About Antenna 1 and Wi-Fi 2.4G Antenna 1 and Wi-Fi 5G Antenna 2

| SAR <sub>1g/10g</sub> (W/kg) |             | Ant 1 | Wi-Fi 2.4G Ant 1 | Wi-Fi Ant 2 (U-NII-1 & U-NII-2A) | Wi-Fi Ant 2 (U-NII-2C) | Wi-Fi Ant 2 (U-NII-3) | MAX. $\Sigma SAR_{1g/10g}$ |
|------------------------------|-------------|-------|------------------|----------------------------------|------------------------|-----------------------|----------------------------|
| Test Position                |             |       |                  |                                  |                        |                       |                            |
| Left Cheek                   |             | 0.248 | 0.558            | <b>0.443</b>                     | 0.130                  | 0.178                 | 1.249                      |
| Left Tilt                    |             | 0.199 | 0.530            | <b>0.387</b>                     | 0.327                  | 0.112                 | 1.116                      |
| Right Cheek                  |             | 0.342 | 0.208            | 0.267                            | <b>0.445</b>           | 0.206                 | 0.995                      |
| Right Tilt                   |             | 0.181 | 0.222            | 0.348                            | <b>0.399</b>           | 0.152                 | 0.802                      |
| Body worn                    | Back Side   | 0.865 | 0.209            | 0.035                            | <b>0.399</b>           | 0.099                 | <b>1.473</b>               |
|                              | Front Side  | 0.875 | 0.200            | 0.007                            | <b>0.122</b>           | 0.031                 | 1.197                      |
| Hotspot                      | Back Side   | 0.891 | 0.400            | 0.079                            | N/A                    | <b>0.159</b>          | 1.450                      |
|                              | Front Side  | 0.694 | 0.380            | 0.015                            | N/A                    | <b>0.107</b>          | 1.181                      |
|                              | Left Edge   | 0.176 | N/A              | <b>0.010</b>                     | N/A                    | 0.007                 | 0.186                      |
|                              | Right Edge  | 0.459 | 0.383            | <b>0.008</b>                     | N/A                    | 0.002                 | 0.850                      |
|                              | Top Edge    | 0     | 0.524            | <b>0.033</b>                     | N/A                    | 0.015                 | 0.557                      |
|                              | Bottom Edge | 1.089 | N/A              | N/A                              | N/A                    | N/A                   | 1.089                      |
| Product Specific 10-g SAR    | Back Side   | 2.149 | 1.185            | 0.311                            | <b>0.318</b>           | N/A                   | 3.652                      |
|                              | Front Side  | 2.496 | 1.185            | 0.235                            | <b>0.264</b>           | N/A                   | <b>3.945</b>               |
|                              | Left Edge   | N/A   | N/A              | <b>0.031</b>                     | 0.024                  | N/A                   | 0.031                      |
|                              | Right Edge  | N/A   | 1.185            | 0.001                            | <b>0.011</b>           | N/A                   | 1.196                      |
|                              | Top Edge    | N/A   | 1.185            | <b>0.088</b>                     | 0.065                  | N/A                   | 1.273                      |
|                              | Bottom Edge | 2.699 | N/A              | N/A                              | N/A                    | N/A                   | 2.699                      |

Note: 1. The value with blue color is the maximum  $\Sigma SAR_{1g/10g}$  Value.

2. MAX.  $\Sigma SAR_{1g/10g} = \text{Unlicensed SAR}_{MAX} + \text{Licensed SAR}_{MAX}$

MAX.  $\Sigma SAR_{1g} = 1.473 \text{ W/kg} < 1.6 \text{ W/kg}$  and MAX.  $\Sigma SAR_{10g} = 3.945 \text{ W/kg} < 4.0 \text{ W/kg}$ , so the Simultaneous transimition SAR with volum scan are not required for Antenna 1 and Wi-Fi 2.4G Antenna 1 and Wi-Fi 5G Antenna 2.





## About Antenna 1 and Wi-Fi 2.4G Antenna 2 and Wi-Fi 5G Antenna 1

| SAR <sub>1g/10g</sub> (W/kg) |             | Ant 1 | Wi-Fi 2.4G Ant 2 | Wi-Fi Ant 1 (U-NII-1 & U-NII-2A) | Wi-Fi Ant 1 (U-NII-2C) | Wi-Fi Ant 1 (U-NII-3) | MAX. $\Sigma$ SAR <sub>1g/10g</sub> |
|------------------------------|-------------|-------|------------------|----------------------------------|------------------------|-----------------------|-------------------------------------|
| Test Position                |             |       |                  |                                  |                        |                       |                                     |
| Left Cheek                   |             | 0.248 | 0.224            | 0.449                            | <b>0.538</b>           | 0.430                 | 1.010                               |
| Left Tilt                    |             | 0.199 | 0.153            | <b>0.317</b>                     | 0.295                  | 0.296                 | 0.669                               |
| Right Cheek                  |             | 0.342 | 0.101            | 0.207                            | 0.166                  | <b>0.276</b>          | 0.719                               |
| Right Tilt                   |             | 0.181 | 0.109            | 0.183                            | 0.200                  | <b>0.230</b>          | 0.520                               |
| Body worn                    | Back Side   | 0.865 | 0.256            | 0.161                            | 0.179                  | <b>0.261</b>          | 1.382                               |
|                              | Front Side  | 0.875 | 0.007            | 0.067                            | 0.058                  | <b>0.074</b>          | 0.956                               |
| Hotspot                      | Back Side   | 0.891 | 0.630            | 0.142                            | N/A                    | <b>0.231</b>          | <b>1.752</b>                        |
|                              | Front Side  | 0.694 | 0.031            | 0.127                            | N/A                    | <b>0.152</b>          | 0.877                               |
|                              | Left Edge   | 0.176 | 0.009            | N/A                              | N/A                    | N/A                   | 0.185                               |
|                              | Right Edge  | 0.459 | 0.016            | 0.092                            | N/A                    | <b>0.114</b>          | 0.589                               |
|                              | Top Edge    | 0     | 0.076            | <b>0.128</b>                     | N/A                    | 0.072                 | 0.204                               |
|                              | Bottom Edge | 1.089 | N/A              | N/A                              | N/A                    | N/A                   | 1.089                               |
| Product Specific 10-g SAR    | Back Side   | 2.149 | 1.056            | 0.438                            | <b>0.488</b>           | N/A                   | 3.693                               |
|                              | Front Side  | 2.496 | 1.056            | <b>0.309</b>                     | 0.159                  | N/A                   | <b>3.861</b>                        |
|                              | Left Edge   | N/A   | 1.056            | N/A                              | N/A                    | N/A                   | 1.056                               |
|                              | Right Edge  | N/A   | 1.056            | 0.293                            | <b>0.306</b>           | N/A                   | 1.362                               |
|                              | Top Edge    | N/A   | 1.056            | <b>0.198</b>                     | 0.112                  | N/A                   | 1.254                               |
|                              | Bottom Edge | 2.699 | N/A              | N/A                              | N/A                    | N/A                   | 2.699                               |

Note: 1. The value with blue color is the maximum  $\Sigma$ SAR<sub>1g/10g</sub> Value.

2. MAX.  $\Sigma$ SAR<sub>1g/10g</sub> = Unlicensed SAR<sub>MAX</sub> + Licensed SAR<sub>MAX</sub>

MAX.  $\Sigma$ SAR<sub>1g</sub> = 1.752 W/kg > 1.6 W/kg and MAX.  $\Sigma$ SAR<sub>10g</sub> = 3.861 W/kg < 4.0 W/kg, so the SAR to peak location separation ratio should be considered

| Test Position                     | Back Side |       |       |       |       |       |       |       |       |       |       |   |   |   |
|-----------------------------------|-----------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|---|---|---|
| Reported SAR <sub>1g</sub> (W/kg) |           |       |       |       |       |       |       |       |       |       |       |   |   |   |
| GSM 850                           | 0.891     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | / | / | / |
| GSM 1900                          | /         | 0.222 | /     | /     | /     | /     | /     | /     | /     | /     | /     | / | / | / |
| UMTS 2                            | /         | /     | 0.301 | /     | /     | /     | /     | /     | /     | /     | /     | / | / | / |
| UMTS4                             | /         | /     | /     | 0.489 | /     | /     | /     | /     | /     | /     | /     | / | / | / |
| UMTS 5                            | /         | /     | /     | /     | 0.532 | /     | /     | /     | /     | /     | /     | / | / | / |
| LTE2                              | /         | /     | /     | /     | /     | 0.287 | /     | /     | /     | /     | /     | / | / | / |
| LTE4                              | /         | /     | /     | /     | /     | /     | 0.444 | /     | /     | /     | /     | / | / | / |
| LTE 5                             | /         | /     | /     | /     | /     | /     | /     | 0.393 | /     | /     | /     | / | / | / |
| LTE 7                             | /         | /     | /     | /     | /     | /     | /     | /     | 0.536 | /     | /     | / | / | / |
| LTE 12                            | /         | /     | /     | /     | /     | /     | /     | /     | /     | 0.292 | /     | / | / | / |
| LTE 17                            | /         | /     | /     | /     | /     | /     | /     | /     | /     | /     | 0.296 | / | / | / |



|                        |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| LTE 26                 | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | 0.464 | /     | /     |
| LTE 38                 | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | 0.296 | /     |
| LTE 41                 | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | 0.412 |
| Wi-Fi 2.4G Ant 2       | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 |
| Wi-Fi Ant 1 (U-NII-3)  | 0.231 | 0.231 | 0.231 | 0.231 | 0.231 | 0.231 | 0.231 | 0.231 | 0.231 | 0.231 | 0.231 | 0.231 | 0.231 | 0.231 |
| MAX.ΣSAR <sub>1g</sub> | 1.752 | 1.083 | 1.162 | 1.35  | 1.393 | 1.148 | 1.305 | 1.254 | 1.397 | 1.153 | 1.157 | 1.325 | 1.157 | 1.273 |

Note: 1. The value with blue color is the SAR<sub>1g</sub> > 1.6 W/kg.

2. When the MAX. Σ SAR<sub>1g</sub> > 1.6 W/kg in a position, Ratio need consideration in this position.

| The position                                                                                   | X            | Y      | Z       |
|------------------------------------------------------------------------------------------------|--------------|--------|---------|
| SAR <sub>GSM 850</sub>                                                                         | -24.50       | -37.80 | -205.90 |
| SAR <sub>Wi-Fi 2.4G Ant 2</sub>                                                                | -23.00       | 61.50  | -206.00 |
| SAR <sub>Wi-Fi Ant 1 (U-NII-3)</sub>                                                           | -47.00       | 61.50  | -204.60 |
| GSM 850 & Wi-Fi 2.4G Ant 2                                                                     |              |        |         |
| Ri (mm)                                                                                        | 99.311       |        |         |
| SAR <sub>GSM 850</sub> (W/Kg)                                                                  | 0.891        |        |         |
| SAR <sub>Wi-Fi 2.4G Ant 2</sub> (W/Kg)                                                         | 0.630        |        |         |
| Ratio                                                                                          | 0.019 < 0.04 |        |         |
| GSM 850 & Wi-Fi Ant 1 (U-NII-3)                                                                |              |        |         |
| Ri (mm)                                                                                        | 101.825      |        |         |
| SAR <sub>GSM 850</sub> (W/Kg)                                                                  | 0.891        |        |         |
| SAR <sub>Wi-Fi Ant 1 (U-NII-3)</sub> (W/Kg)                                                    | 0.231        |        |         |
| Ratio                                                                                          | 0.012 < 0.04 |        |         |
| Wi-Fi 2.4G Ant 2 & Wi-Fi Ant 1 (U-NII-3)                                                       |              |        |         |
| Ri (mm)                                                                                        | 24.041       |        |         |
| SAR <sub>Wi-Fi Ant 1 (U-NII-3)</sub> (W/Kg)                                                    | 0.231        |        |         |
| SAR <sub>Wi-Fi 2.4G Ant 2</sub> (W/Kg)                                                         | 0.630        |        |         |
| Ratio                                                                                          | 0.033 < 0.04 |        |         |
| PSLS=Peak SAR Location Separation                                                              |              |        |         |
| Ratio =[(Reported SAR <sub>1</sub> + (Reported SAR <sub>2</sub> )] <sup>3/2</sup> /PSLS < 0.04 |              |        |         |

| Test Position<br>Reported<br>SAR <sub>1g</sub> (W/kg) | Back Side |       |       |       |       |   |   |   |   |   |   |   |   |   |
|-------------------------------------------------------|-----------|-------|-------|-------|-------|---|---|---|---|---|---|---|---|---|
| GSM 850                                               | 0.891     | /     | /     | /     | /     | / | / | / | / | / | / | / | / | / |
| GSM 1900                                              | /         | 0.222 | /     | /     | /     | / | / | / | / | / | / | / | / | / |
| UMTS 2                                                | /         | /     | 0.301 | /     | /     | / | / | / | / | / | / | / | / | / |
| UMTS4                                                 | /         | /     | /     | 0.489 | /     | / | / | / | / | / | / | / | / | / |
| UMTS 5                                                | /         | /     | /     | /     | 0.532 | / | / | / | / | / | / | / | / | / |



|                                  |       |       |       |       |       |       |       |       |       |       |       |       |       |       |
|----------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| LTE2                             | /     | /     | /     | /     | /     | 0.287 | /     | /     | /     | /     | /     | /     | /     | /     |
| LTE4                             | /     | /     | /     | /     | /     | /     | 0.444 | /     | /     | /     | /     | /     | /     | /     |
| LTE 5                            | /     | /     | /     | /     | /     | /     | /     | 0.393 | /     | /     | /     | /     | /     | /     |
| LTE 7                            | /     | /     | /     | /     | /     | /     | /     | /     | 0.536 | /     | /     | /     | /     | /     |
| LTE 12                           | /     | /     | /     | /     | /     | /     | /     | /     | /     | 0.292 | /     | /     | /     | /     |
| LTE 17                           | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | 0.296 | /     | /     | /     |
| LTE 26                           | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | 0.464 | /     | /     |
| LTE 38                           | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | 0.296 | /     |
| LTE 41                           | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | /     | 0.412 |
| Wi-Fi 2.4G Ant 2                 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 | 0.630 |
| Wi-Fi Ant 1 (U-NII-1 & U-NII-2A) | 0.142 | 0.142 | 0.142 | 0.142 | 0.142 | 0.142 | 0.142 | 0.142 | 0.142 | 0.142 | 0.142 | 0.142 | 0.142 | 0.142 |
| MAX.ΣSAR <sub>1g</sub>           | 1.663 | 0.994 | 1.073 | 1.261 | 1.304 | 1.059 | 1.216 | 1.165 | 1.308 | 1.064 | 1.068 | 1.236 | 1.068 | 1.184 |

Note: 1. The value with blue color is the SAR<sub>1g</sub> > 1.6 W/kg.

2. When the MAX. Σ SAR<sub>1g</sub> > 1.6 W/kg in a position, Ratio need consideration in this position.

| The position                                                                                   | X            | Y      | Z       |
|------------------------------------------------------------------------------------------------|--------------|--------|---------|
| SAR <sub>GSM 850</sub>                                                                         | -24.50       | -37.80 | -205.90 |
| SAR <sub>Wi-Fi 2.4G Ant 2</sub>                                                                | -23.00       | 61.50  | -206.00 |
| SAR <sub>Wi-Fi Ant 1 (U-NII-1 &amp; U-NII-2A)</sub>                                            | -47.00       | 64.50  | -204.70 |
| GSM 850 & Wi-Fi 2.4G Ant 2                                                                     |              |        |         |
| Ri (mm)                                                                                        | 99.311       |        |         |
| SAR <sub>GSM 850</sub> (W/Kg)                                                                  | 0.891        |        |         |
| SAR <sub>Wi-Fi 2.4G Ant 2</sub> (W/Kg)                                                         | 0.630        |        |         |
| Ratio                                                                                          | 0.019 < 0.04 |        |         |
| GSM 850 & Wi-Fi Ant 1 (U-NII-1 & U-NII-2A)                                                     |              |        |         |
| Ri (mm)                                                                                        | 104.752      |        |         |
| SAR <sub>GSM 850</sub> (W/Kg)                                                                  | 0.891        |        |         |
| SAR <sub>Wi-Fi Ant 1 (U-NII-1 &amp; U-NII-2A)</sub> (W/Kg)                                     | 0.142        |        |         |
| Ratio                                                                                          | 0.010 < 0.04 |        |         |
| Wi-Fi 2.4G Ant 2 & Wi-Fi Ant 1 (U-NII-1 & U-NII-2A)                                            |              |        |         |
| Ri (mm)                                                                                        | 24.222       |        |         |
| SAR <sub>Wi-Fi Ant 1 (U-NII-1 &amp; U-NII-2A)</sub> (W/Kg)                                     | 0.142        |        |         |
| SAR <sub>Wi-Fi 2.4G Ant 2</sub> (W/Kg)                                                         | 0.630        |        |         |
| Ratio                                                                                          | 0.028 < 0.04 |        |         |
| PSLS=Peak SAR Location Separation                                                              |              |        |         |
| Ratio =[(Reported SAR <sub>1</sub> + (Reported SAR <sub>2</sub> )] <sup>3/2</sup> /PSLS < 0.04 |              |        |         |

so the Simultaneous transimition SAR with volum scan are not required for Antenna 1 and Wi-Fi 2.4G Antenna 2 and Wi-Fi 5G Antenna 1

**About Antenna 2 and Wi-Fi 2.4G Antenna 1 and Wi-Fi 5G Antenna 2**

| SAR <sub>1g/10g</sub> (W/kg) |             | Ant 2 | Wi-Fi 2.4G Ant 1 | Wi-Fi Ant 2 (U-NII-1 & U-NII-2A) | Wi-Fi Ant 2 (U-NII-2C) | Wi-Fi Ant 2 (U-NII-3) | MAX. $\Sigma$ SAR <sub>1g/10g</sub> |
|------------------------------|-------------|-------|------------------|----------------------------------|------------------------|-----------------------|-------------------------------------|
| Test Position                |             |       |                  |                                  |                        |                       |                                     |
| Left Cheek                   |             | 0.390 | 0.558            | <b>0.443</b>                     | 0.130                  | 0.178                 | <b>1.391</b>                        |
| Left Tilt                    |             | 0.404 | 0.530            | <b>0.387</b>                     | 0.327                  | 0.112                 | 1.321                               |
| Right Cheek                  |             | 0.441 | 0.208            | 0.267                            | <b>0.445</b>           | 0.206                 | 1.094                               |
| Right Tilt                   |             | 0.381 | 0.222            | 0.348                            | <b>0.399</b>           | 0.152                 | 1.002                               |
| Body worn                    | Back Side   | 0.325 | 0.209            | 0.035                            | <b>0.399</b>           | 0.099                 | 0.933                               |
|                              | Front Side  | 0.315 | 0.200            | 0.007                            | <b>0.122</b>           | 0.031                 | 0.637                               |
| Hotspot                      | Back Side   | 0.363 | 0.400            | 0.079                            | N/A                    | <b>0.159</b>          | 0.922                               |
|                              | Front Side  | 0.291 | 0.380            | 0.015                            | N/A                    | <b>0.107</b>          | 0.778                               |
|                              | Left Edge   | 0.205 | N/A              | <b>0.010</b>                     | N/A                    | 0.007                 | 0.215                               |
|                              | Right Edge  | 0.247 | 0.383            | <b>0.008</b>                     | N/A                    | 0.002                 | 0.638                               |
|                              | Top Edge    | 0.285 | 0.524            | <b>0.033</b>                     | N/A                    | 0.015                 | 0.842                               |
|                              | Bottom Edge | 0     | N/A              | N/A                              | N/A                    | N/A                   | 0                                   |
| Product Specific 10-g SAR    | Back Side   | N/A   | 1.185            | 0.311                            | <b>0.318</b>           | N/A                   | <b>1.503</b>                        |
|                              | Front Side  | N/A   | 1.185            | 0.235                            | <b>0.264</b>           | N/A                   | 1.449                               |
|                              | Left Edge   | N/A   | N/A              | <b>0.031</b>                     | 0.024                  | N/A                   | 0.031                               |
|                              | Right Edge  | N/A   | 1.185            | 0.001                            | <b>0.011</b>           | N/A                   | 1.196                               |
|                              | Top Edge    | N/A   | 1.185            | <b>0.088</b>                     | 0.065                  | N/A                   | 1.273                               |
|                              | Bottom Edge | N/A   | N/A              | N/A                              | N/A                    | N/A                   | 0                                   |

Note: 1. The value with blue color is the maximum  $\Sigma$ SAR<sub>1g/10g</sub> Value.

2. MAX.  $\Sigma$ SAR<sub>1g/10g</sub> = Unlicensed SAR<sub>MAX</sub> + Licensed SAR<sub>MAX</sub>

MAX.  $\Sigma$ SAR<sub>1g</sub> = 1.391 W/kg < 1.6 W/kg and MAX.  $\Sigma$ SAR<sub>10g</sub> = 1.503 W/kg < 4.0 W/kg, so the Simultaneous transimition SAR with volum scan are not required for Antenna 2 and Wi-Fi 2.4G Antenna 1 and Wi-Fi 5G Antenna 2.

**About Antenna 2 and Wi-Fi 2.4G Antenna 2 and Wi-Fi 5G Antenna 1**

| SAR <sub>1g/10g</sub> (W/kg) |             | Ant 2 | Wi-Fi 2.4G Ant 2 | Wi-Fi Ant 1 (U-NII-1 & U-NII-2A) | Wi-Fi Ant 1 (U-NII-2C) | Wi-Fi Ant 1 (U-NII-3) | MAX. $\Sigma$ SAR <sub>1g/10g</sub> |
|------------------------------|-------------|-------|------------------|----------------------------------|------------------------|-----------------------|-------------------------------------|
| Test Position                |             |       |                  |                                  |                        |                       |                                     |
| Left Cheek                   |             | 0.390 | 0.224            | 0.449                            | <b>0.538</b>           | 0.430                 | 1.152                               |
| Left Tilt                    |             | 0.404 | 0.153            | <b>0.317</b>                     | 0.295                  | 0.296                 | 0.874                               |
| Right Cheek                  |             | 0.441 | 0.101            | 0.207                            | 0.166                  | <b>0.276</b>          | 0.818                               |
| Right Tilt                   |             | 0.381 | 0.109            | 0.183                            | 0.200                  | <b>0.230</b>          | 0.720                               |
| Body worn                    | Back Side   | 0.325 | 0.256            | 0.161                            | 0.179                  | <b>0.261</b>          | 0.842                               |
|                              | Front Side  | 0.315 | 0.007            | 0.067                            | 0.058                  | <b>0.074</b>          | 0.396                               |
| Hotspot                      | Back Side   | 0.363 | 0.630            | 0.142                            | N/A                    | <b>0.231</b>          | <b>1.224</b>                        |
|                              | Front Side  | 0.291 | 0.031            | 0.127                            | N/A                    | <b>0.152</b>          | 0.474                               |
|                              | Left Edge   | 0.205 | 0.009            | N/A                              | N/A                    | N/A                   | 0.214                               |
|                              | Right Edge  | 0.247 | 0.016            | 0.092                            | N/A                    | <b>0.114</b>          | 0.377                               |
|                              | Top Edge    | 0.285 | 0.076            | <b>0.128</b>                     | N/A                    | 0.072                 | 0.489                               |
|                              | Bottom Edge | 0     | N/A              | N/A                              | N/A                    | N/A                   | 0                                   |



|                                 |             |     |       |              |              |     |              |
|---------------------------------|-------------|-----|-------|--------------|--------------|-----|--------------|
| Product<br>Specific<br>10-g SAR | Back Side   | N/A | 1.056 | 0.438        | <b>0.488</b> | N/A | <b>1.544</b> |
|                                 | Front Side  | N/A | 1.056 | <b>0.309</b> | 0.159        | N/A | 1.365        |
|                                 | Left Edge   | N/A | 1.056 | N/A          | N/A          | N/A | 1.056        |
|                                 | Right Edge  | N/A | 1.056 | 0.293        | <b>0.306</b> | N/A | 1.362        |
|                                 | Top Edge    | N/A | 1.056 | <b>0.198</b> | 0.112        | N/A | 1.254        |
|                                 | Bottom Edge | N/A | N/A   | N/A          | N/A          | N/A | 0            |

Note: 1. The value with blue color is the maximum  $\Sigma SAR_{1g/10g}$  Value.

2.  $MAX. \Sigma SAR_{1g/10g} = \text{Unlicensed } SAR_{MAX} + \text{Licensed } SAR_{MAX}$

$MAX. \Sigma SAR_{1g} = 1.224 \text{ W/kg} < 1.6 \text{ W/kg}$  and  $MAX. \Sigma SAR_{10g} = 1.544 \text{ W/kg} < 4.0 \text{ W/kg}$ , so the Simultaneous transimition SAR with volum scan are not required for Antenna 2 and Wi-Fi 2.4G Antenna 2 and Wi-Fi 5G Antenna 1.

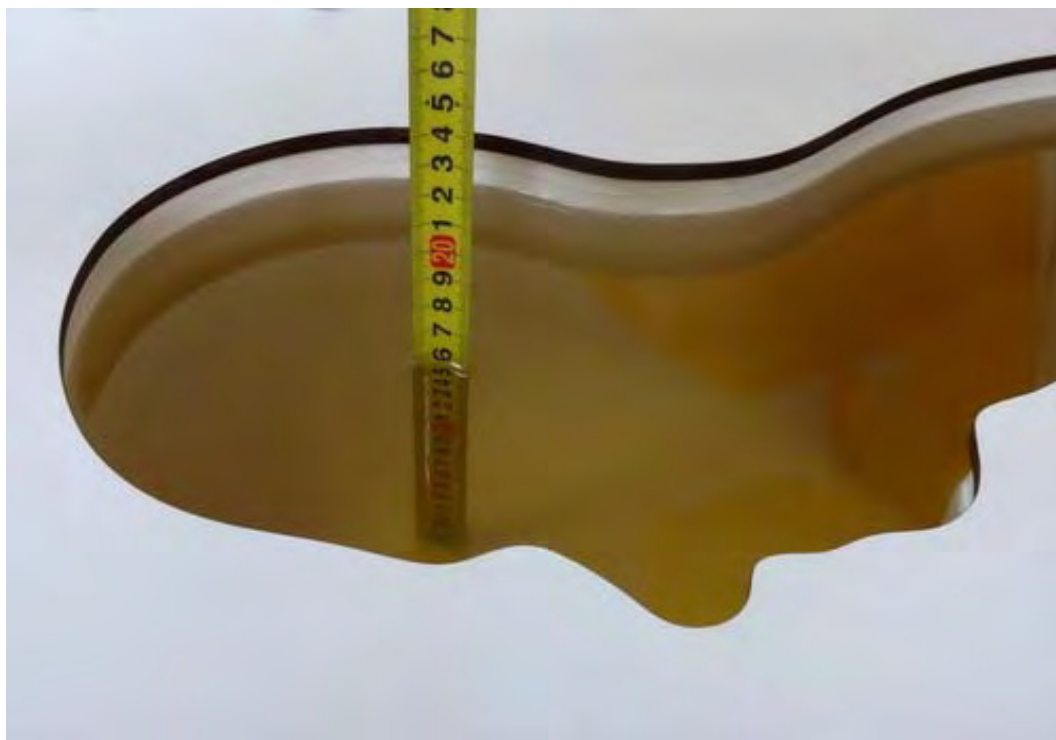


## 11 Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is  $< 1.5$  W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528- 2013 is not required in SAR reports submitted for equipment approval. This also applies to the 10-g SAR required for phablets in KDB Publication 648474.

## ANNEX A: Test Layout



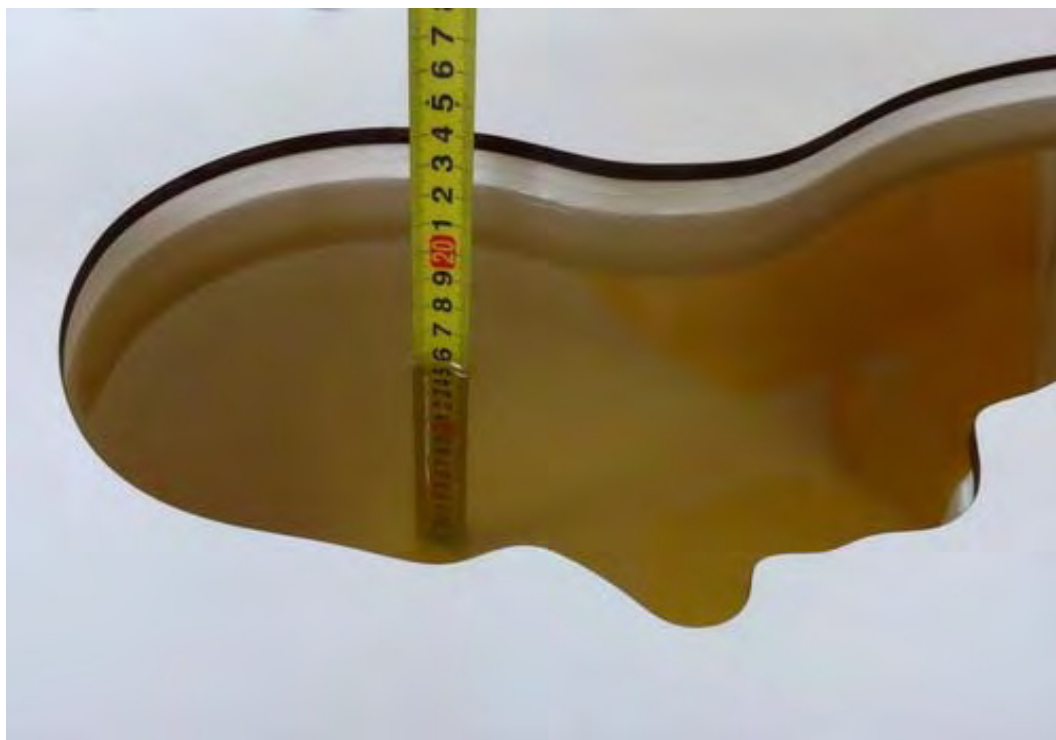


Picture 3: Liquid depth in the head Phantom (750MHz, 15.3cm depth)



Picture 4: Liquid depth in the flat Phantom (750MHz, 15.4cm depth)





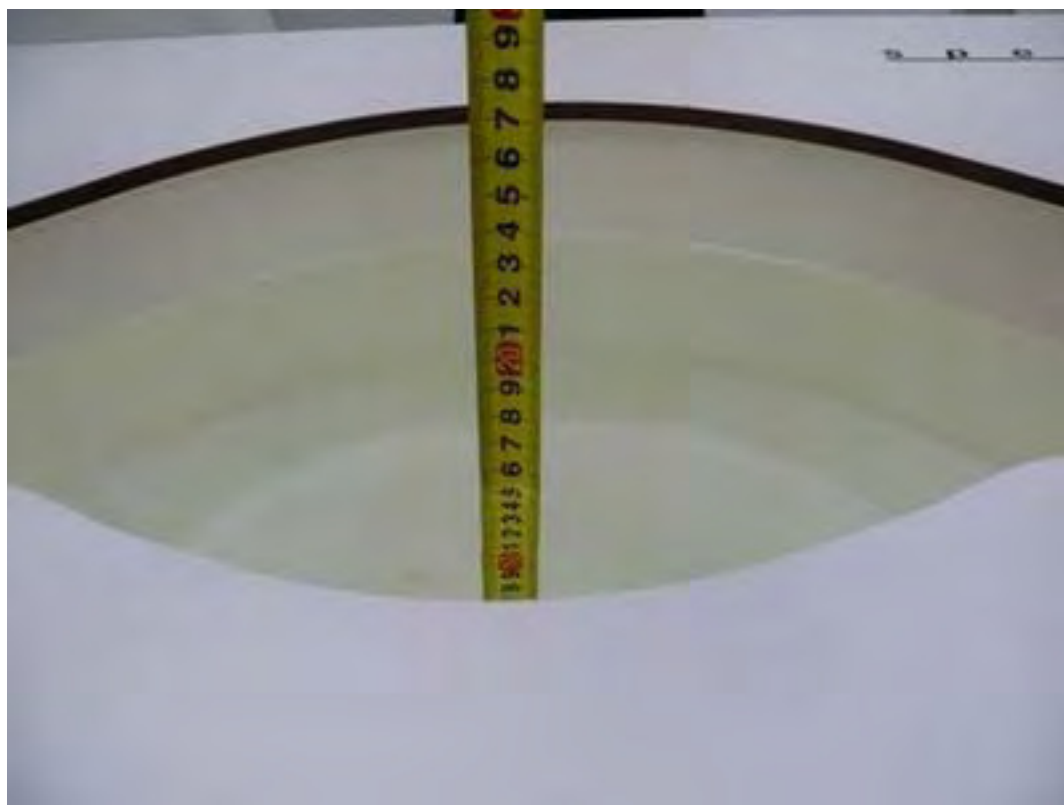
Picture 5: Liquid depth in the head Phantom (835MHz, 15.3cm depth)



Picture 6: Liquid depth in the flat Phantom (835MHz, 15.4cm depth)



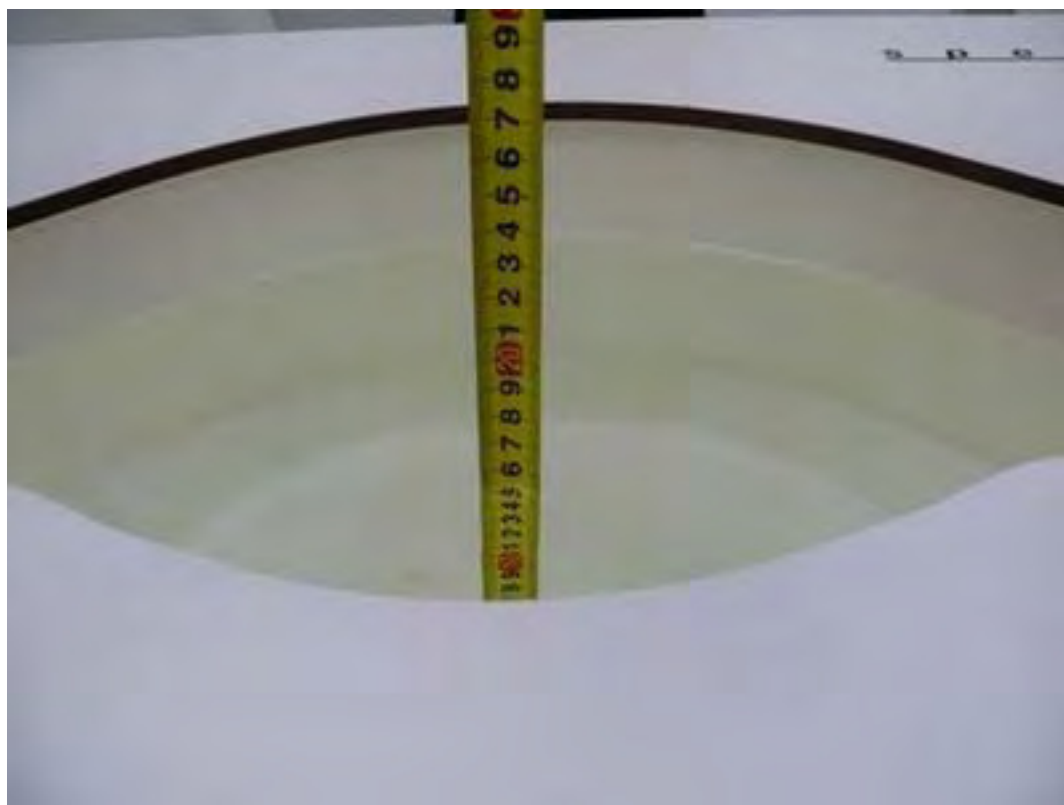
Picture 7: liquid depth in the head Phantom (1750 MHz, 15.3cm depth)



Picture 8: Liquid depth in the flat Phantom (1750 MHz, 15.2cm depth)



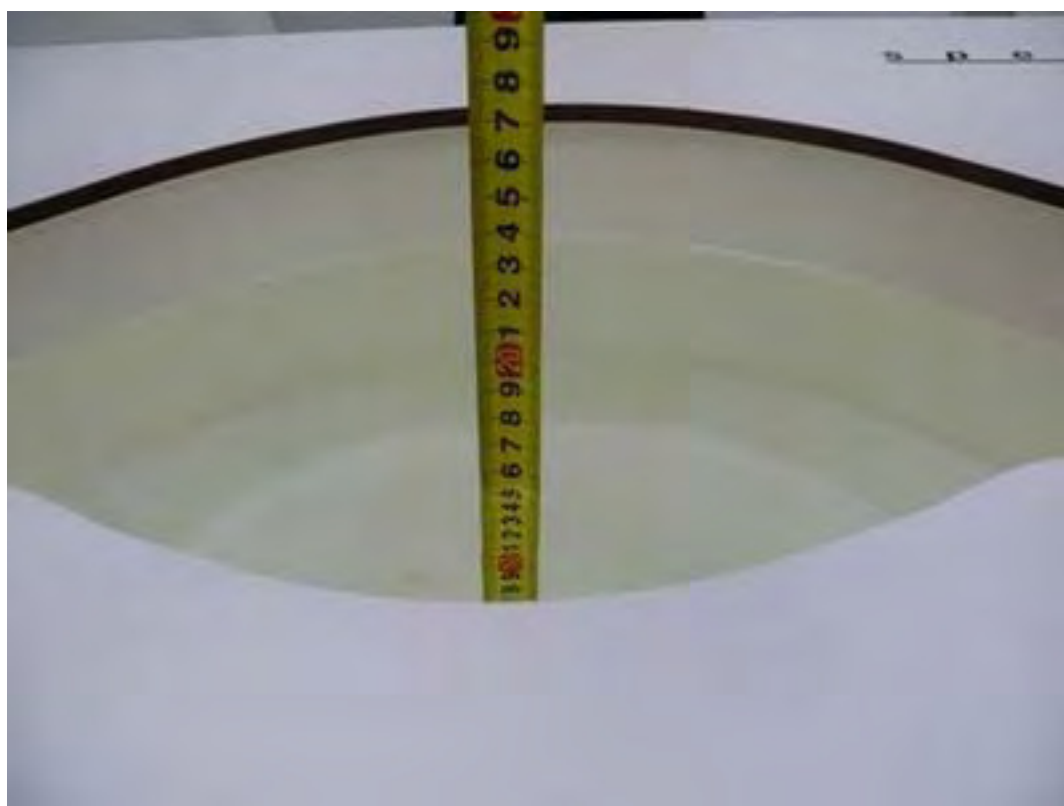
Picture 9: liquid depth in the head Phantom (1900 MHz, 15.3cm depth)



Picture 10: Liquid depth in the flat Phantom (1900 MHz, 15.2cm depth)



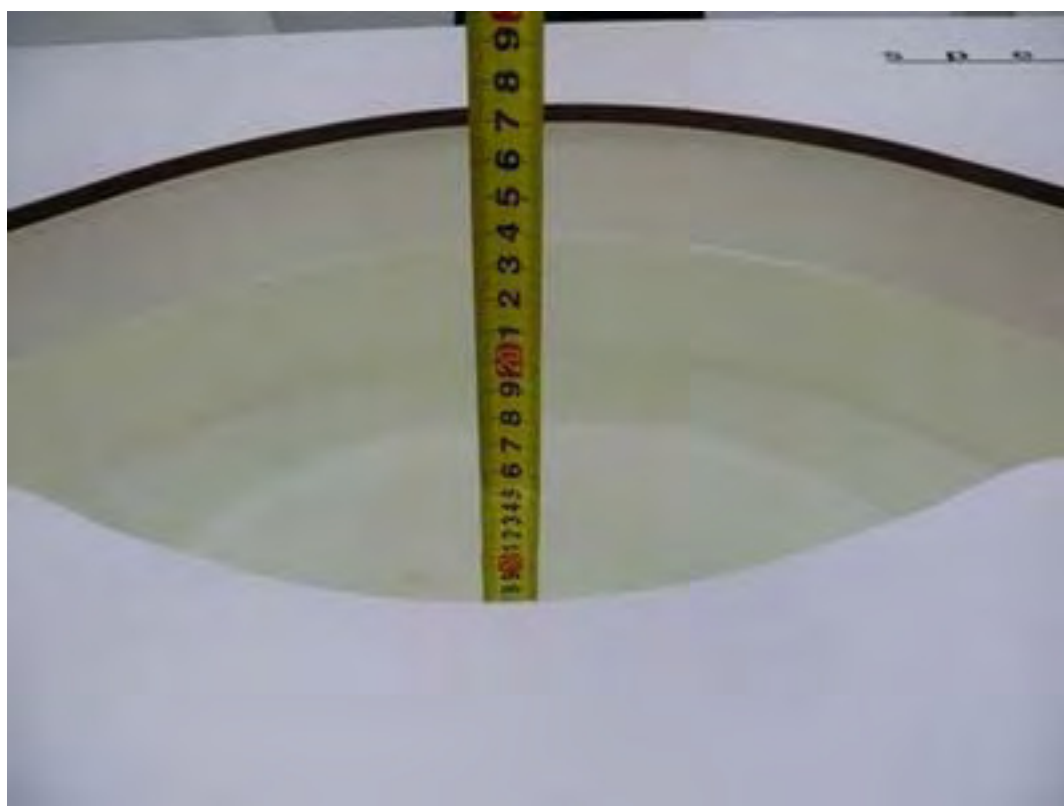
Picture 11: Liquid depth in the head Phantom (2450 MHz, 15.4cm depth)



Picture 12: Liquid depth in the flat Phantom (2450 MHz, 15.3cm depth)



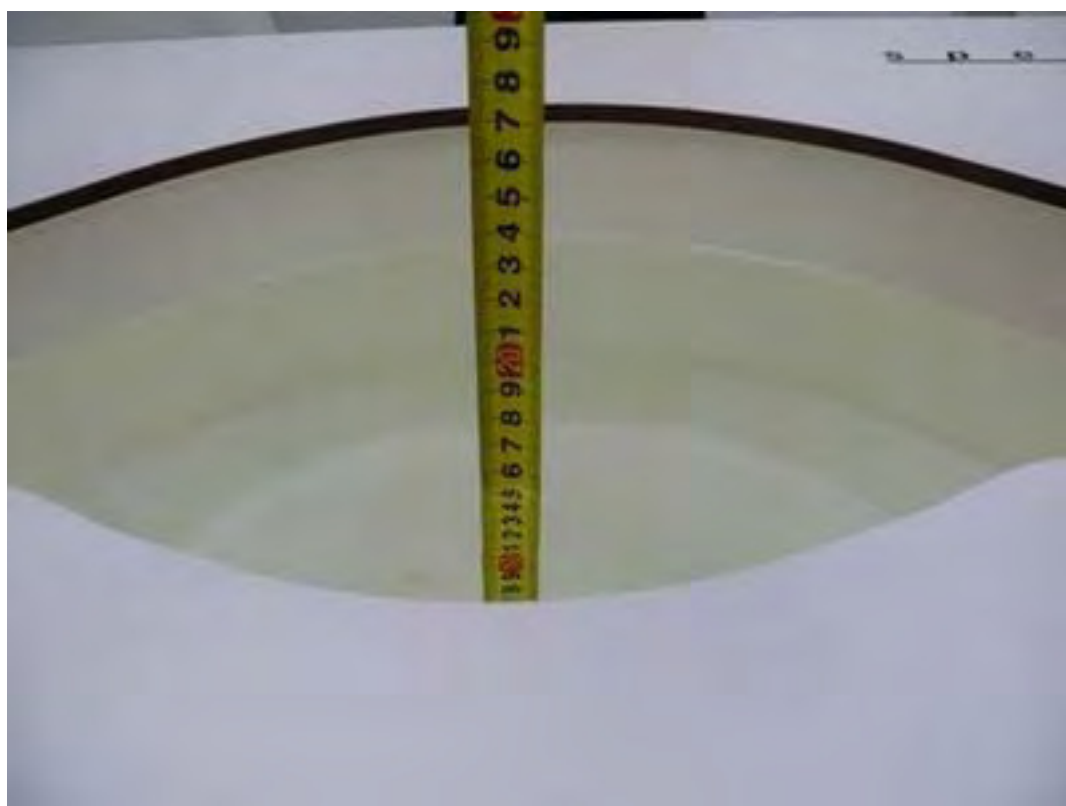
Picture 13: Liquid depth in the head Phantom (2600 MHz, 15.4cm depth)



Picture 14: Liquid depth in the flat Phantom (2600 MHz, 15.3cm depth)



Picture 15: Liquid depth in the head Phantom (5250 MHz, 15.4cm depth)

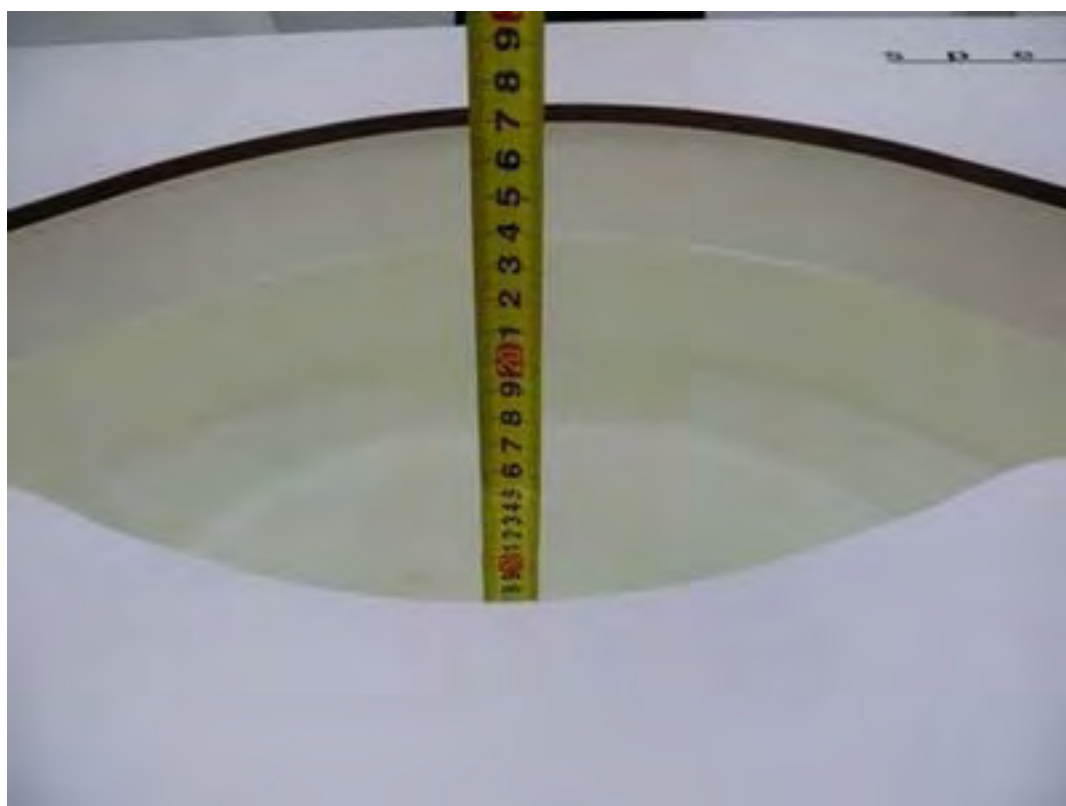


Picture 16: Liquid depth in the flat Phantom (5250 MHz, 15.3cm depth)





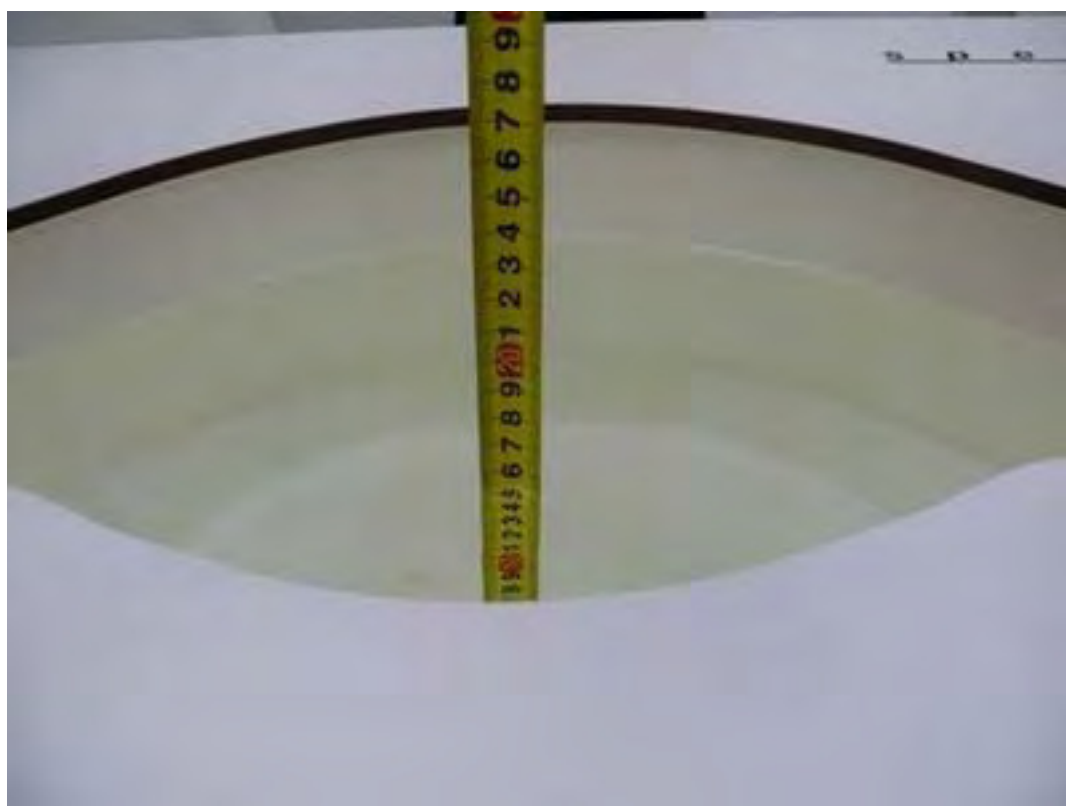
Picture 17: Liquid depth in the head Phantom (5600 MHz, 15.4cm depth)



Picture 18: Liquid depth in the flat Phantom (5600 MHz, 15.3cm depth)



Picture 19: Liquid depth in the head Phantom (5750 MHz, 15.1cm depth)



Picture 20: Liquid depth in the flat Phantom (5750 MHz, 15.0cm depth)



## ANNEX B: System Check Results

### Plot 1 System Performance Check at 750 MHz Head TSL

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1045**

Date: 9/15/2017

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.88 \text{ S/m}$ ;  $\epsilon_r = 42.3$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$  Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.58, 9.58, 9.58); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.29 \text{ W/kg}$

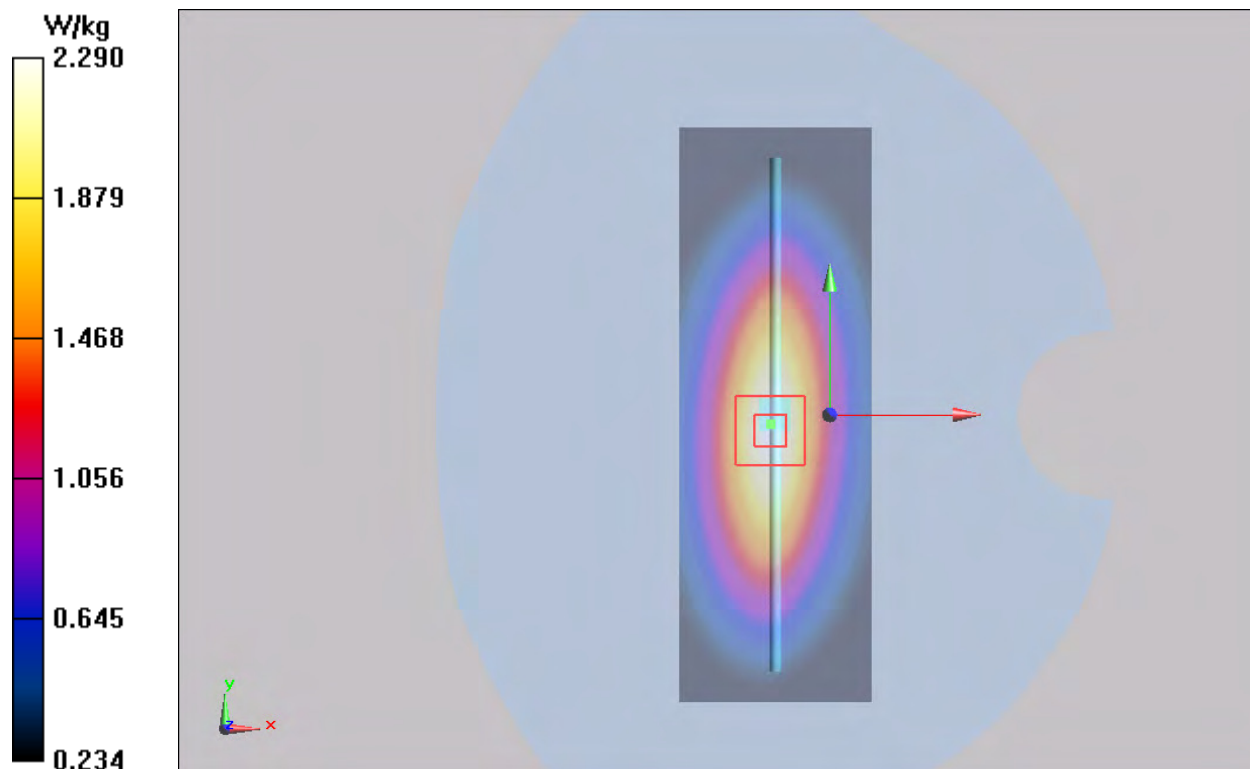
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $50.653 \text{ V/m}$ ; Power Drift =  $-0.08 \text{ dB}$

Peak SAR (extrapolated) =  $3.16 \text{ W/kg}$

**SAR(1 g) =  $2.13 \text{ W/kg}$ ; SAR(10 g) =  $1.41 \text{ W/kg}$**

Maximum value of SAR (measured) =  $2.29 \text{ W/kg}$



## Plot 2 System Performance Check at 750 MHz Head TSL

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1045**

Date: 9/20/2017

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.87 \text{ S/m}$ ;  $\epsilon_r = 42.0$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$  Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.58, 9.58, 9.58); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.31 \text{ W/kg}$

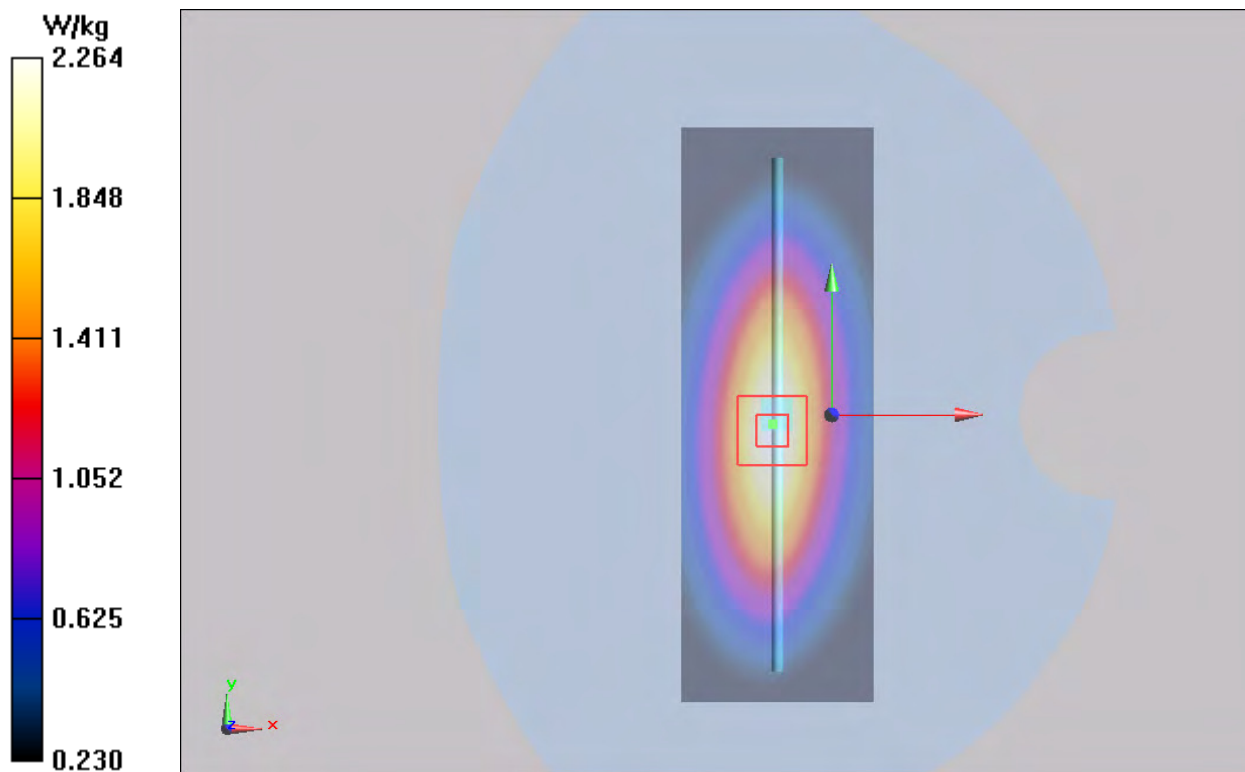
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $50.557 \text{ V/m}$ ; Power Drift =  $0.11 \text{ dB}$

Peak SAR (extrapolated) =  $3.14 \text{ W/kg}$

**SAR(1 g) =  $2.10 \text{ W/kg}$ ; SAR(10 g) =  $1.37 \text{ W/kg}$**

Maximum value of SAR (measured) =  $2.264 \text{ W/kg}$



### Plot 3 System Performance Check at 750 MHz Body TSL

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1045**

Date: 9/14/2017

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.95 \text{ S/m}$ ;  $\epsilon_r = 56.9$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$  Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.36 \text{ W/kg}$

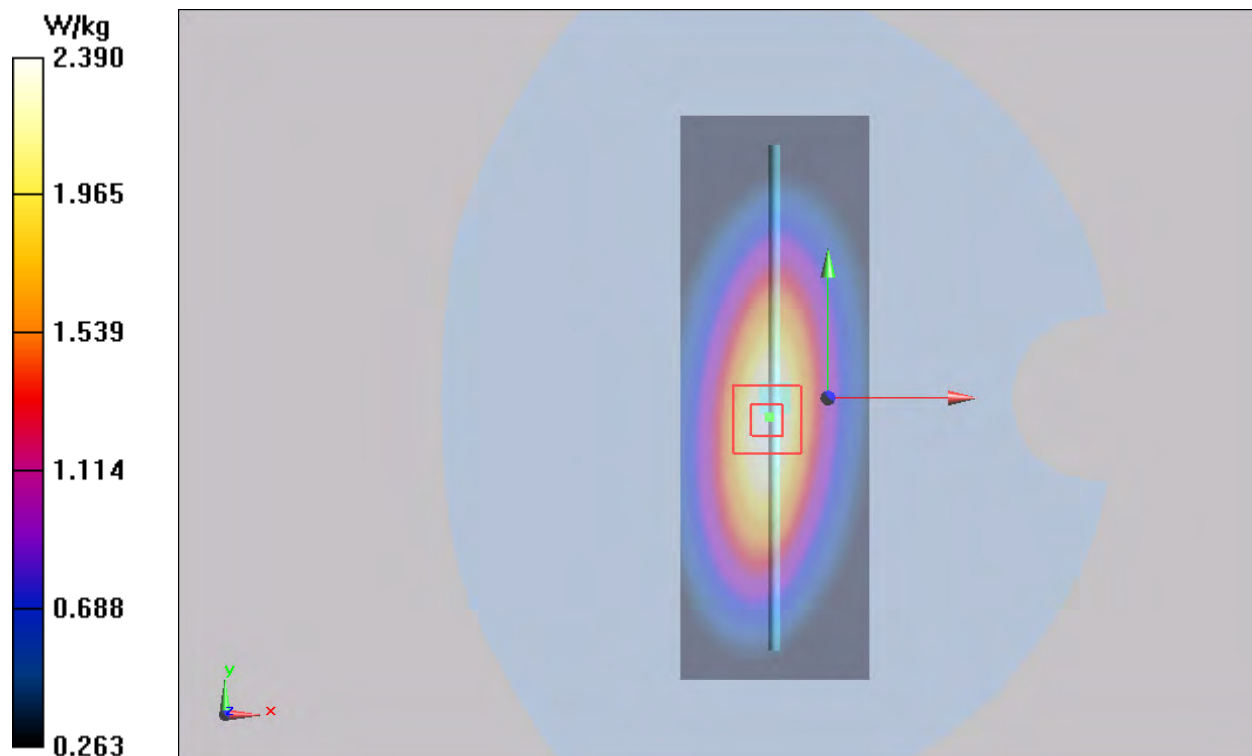
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $48.998 \text{ V/m}$ ; Power Drift =  $0.04 \text{ dB}$

Peak SAR (extrapolated) =  $3.24 \text{ W/kg}$

**SAR(1 g) =  $2.22 \text{ W/kg}$ ; SAR(10 g) =  $1.49 \text{ W/kg}$**

Maximum value of SAR (measured) =  $2.39 \text{ W/kg}$



# Plot 4 System Performance Check at 750 MHz Body TSL

**DUT: Dipole 750 MHz; Type: D750V3; Serial: D750V3 - SN: 1045**

Date: 9/19/2017

Communication System: CW (0); Frequency: 750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 750 \text{ MHz}$ ;  $\sigma = 0.96 \text{ S/m}$ ;  $\epsilon_r = 54.5$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$  Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.34 \text{ W/kg}$

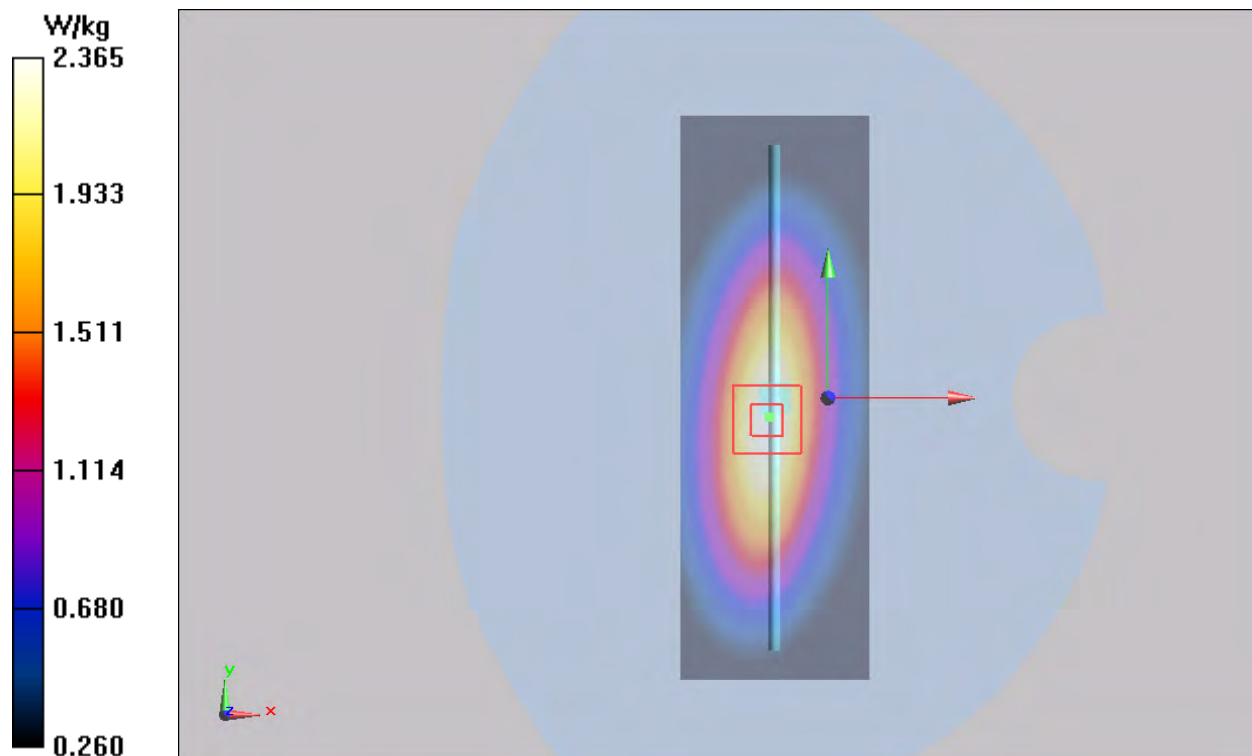
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $48.971 \text{ V/m}$ ; Power Drift =  $0.09 \text{ dB}$

Peak SAR (extrapolated) =  $3.24 \text{ W/kg}$

**SAR(1 g) =  $2.17 \text{ W/kg}$ ; SAR(10 g) =  $1.46 \text{ W/kg}$**

Maximum value of SAR (measured) =  $2.365 \text{ W/kg}$



## Plot 5 System Performance Check at 835 MHz Head TSL

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 9/12/2017

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835$  MHz;  $\sigma = 0.88$  mho/m;  $\epsilon_r = 41.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 2.64 mW/g

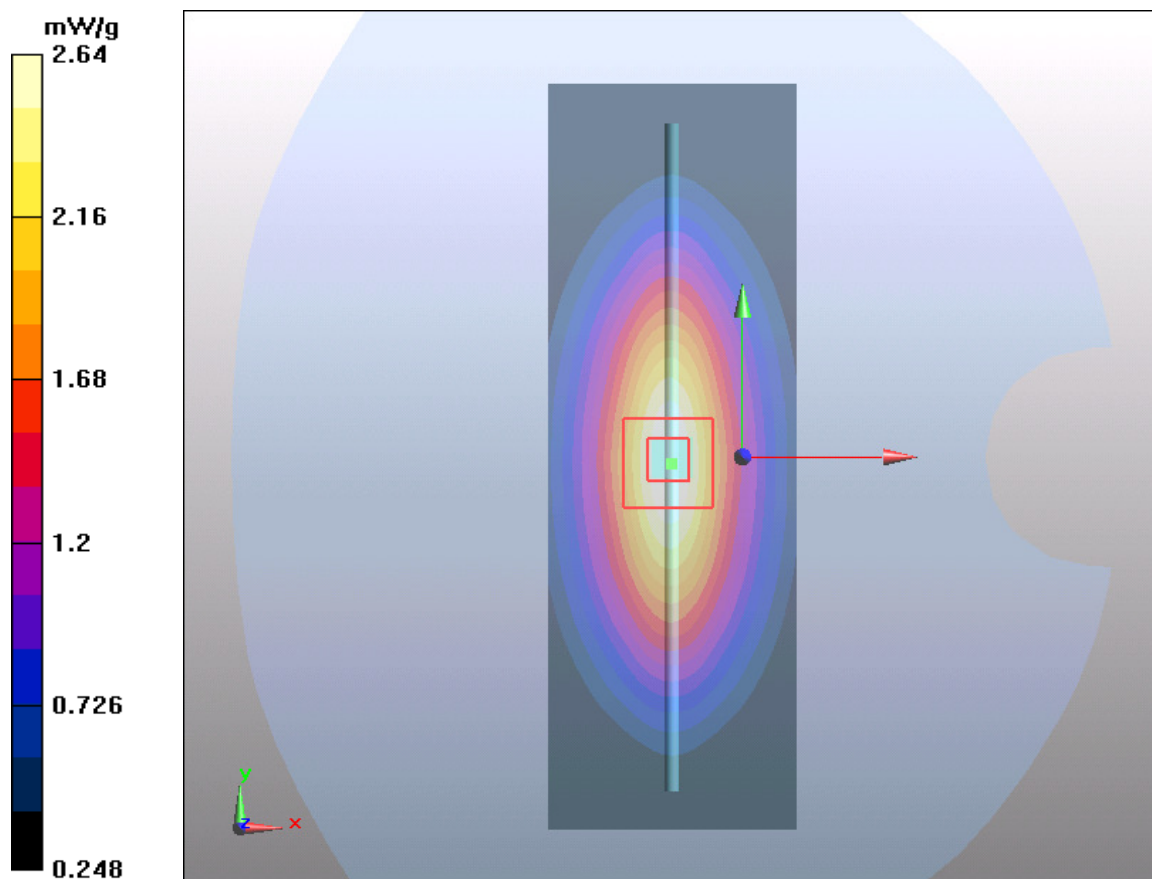
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 54.4 V/m; Power Drift = -0.076 dB

Peak SAR (extrapolated) = 3.67 W/kg

**SAR(1 g) = 2.44 mW/g; SAR(10 g) = 1.6 mW/g**

Maximum value of SAR (measured) = 2.64 mW/g



## Plot 6 System Performance Check at 835 MHz Head TSL

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 9/16/2017

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.87 \text{ mho/m}$ ;  $\epsilon_r = 41.3$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$       Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Measurement grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.59 \text{ mW/g}$

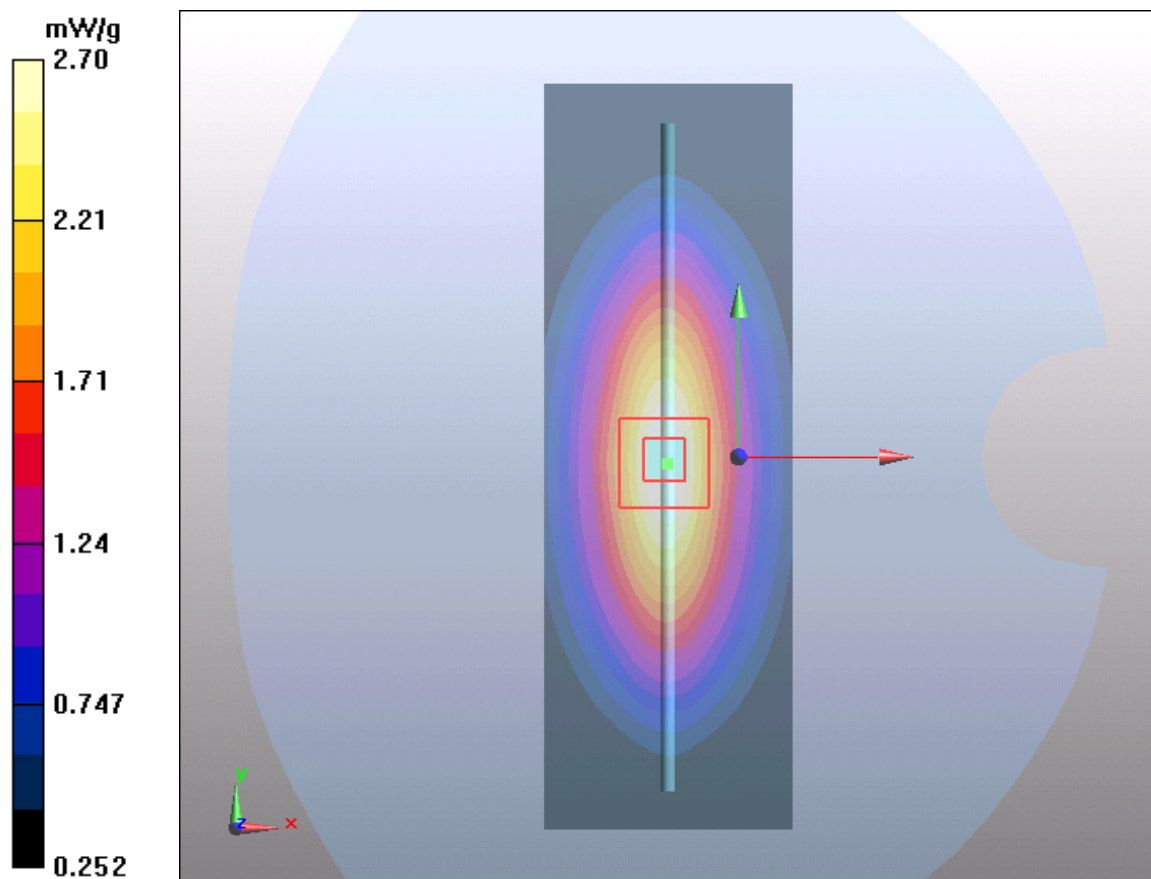
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $54.3 \text{ V/m}$ ; Power Drift =  $-0.06 \text{ dB}$

Peak SAR (extrapolated) =  $3.67 \text{ W/kg}$

**SAR(1 g) =  $2.46 \text{ mW/g}$ ; SAR(10 g) =  $1.65 \text{ mW/g}$**

Maximum value of SAR (measured) =  $2.70 \text{ mW/g}$





## Plot 7 System Performance Check at 835 MHz Body TSL

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 9/13/2017

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.96 \text{ mho/m}$ ;  $\epsilon_r = 54.2$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$       Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Measurement grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.58 \text{ mW/g}$

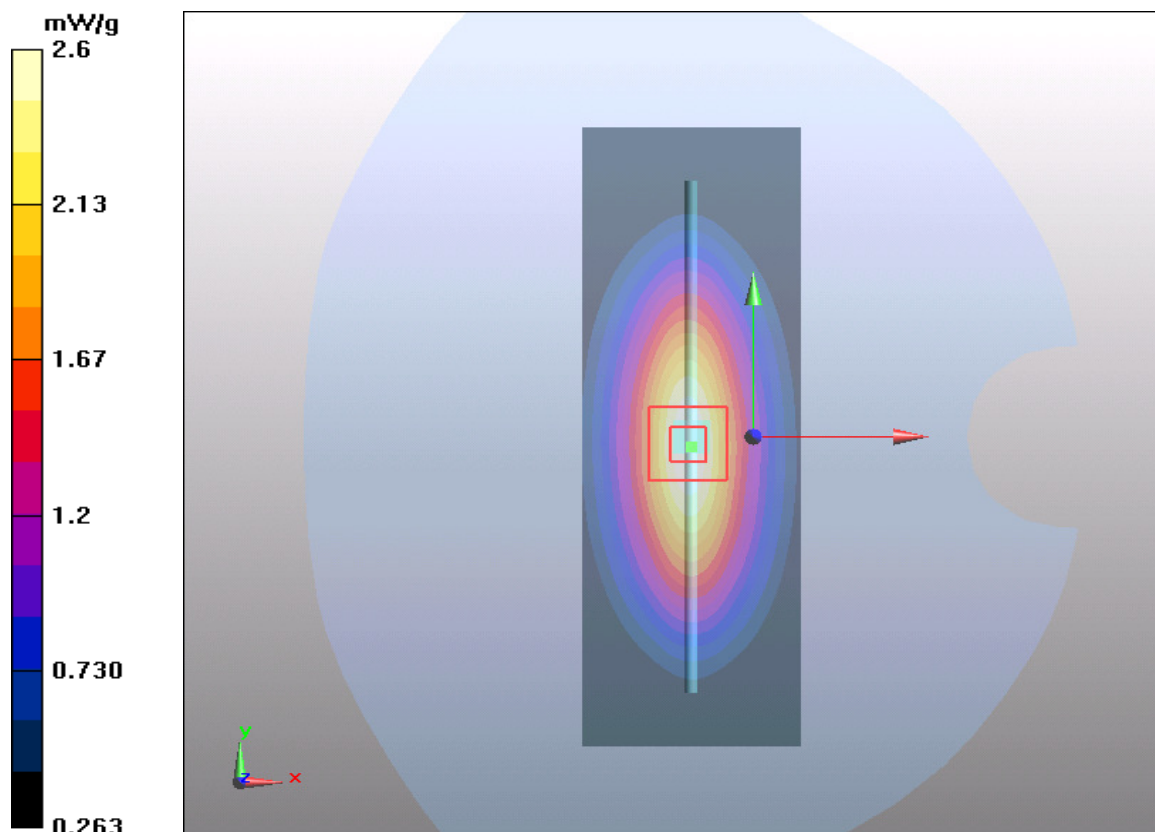
**d=15mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $51.9 \text{ V/m}$ ; Power Drift =  $-0.058 \text{ dB}$

Peak SAR (extrapolated) =  $3.5 \text{ W/kg}$

**SAR(1 g) =  $2.41 \text{ mW/g}$ ; SAR(10 g) =  $1.6 \text{ mW/g}$**

Maximum value of SAR (measured) =  $2.6 \text{ mW/g}$



## Plot 8 System Performance Check at 835 MHz Body TSL

**DUT: Dipole 835 MHz; Type: D835V2; Serial: D835V2 - SN: 4d020**

Date: 9/18/2017

Communication System: CW; Frequency: 835 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 835 \text{ MHz}$ ;  $\sigma = 0.95 \text{ mho/m}$ ;  $\epsilon_r = 54.6$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$

Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=15mm, Pin=250mW/Area Scan (41x121x1):** Measurement grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $2.58 \text{ mW/g}$

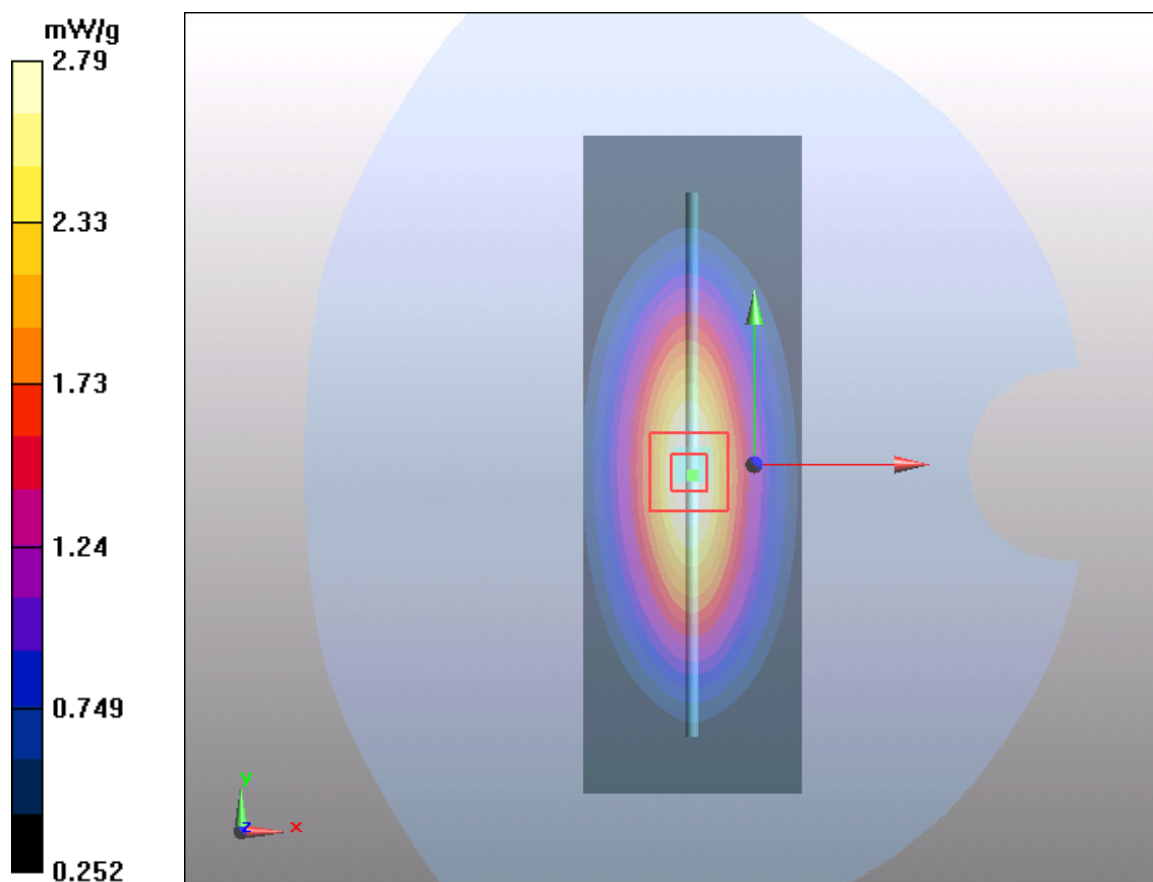
**d=15mm, Pin=250mW/Zoom Scan(5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $51.9 \text{ V/m}$ ; Power Drift =  $-0.058 \text{ dB}$

Peak SAR (extrapolated) =  $3.5 \text{ W/kg}$

**SAR(1 g) =  $2.42 \text{ mW/g}$ ; SAR(10 g) =  $1.63 \text{ mW/g}$**

Maximum value of SAR (measured) =  $2.79 \text{ mW/g}$





# Plot 9 System Performance Check at 1750 MHz Head TSL

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 9/11/2017

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.34$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.60, 8.60, 8.60); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (51x81x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 9.78 mW/g

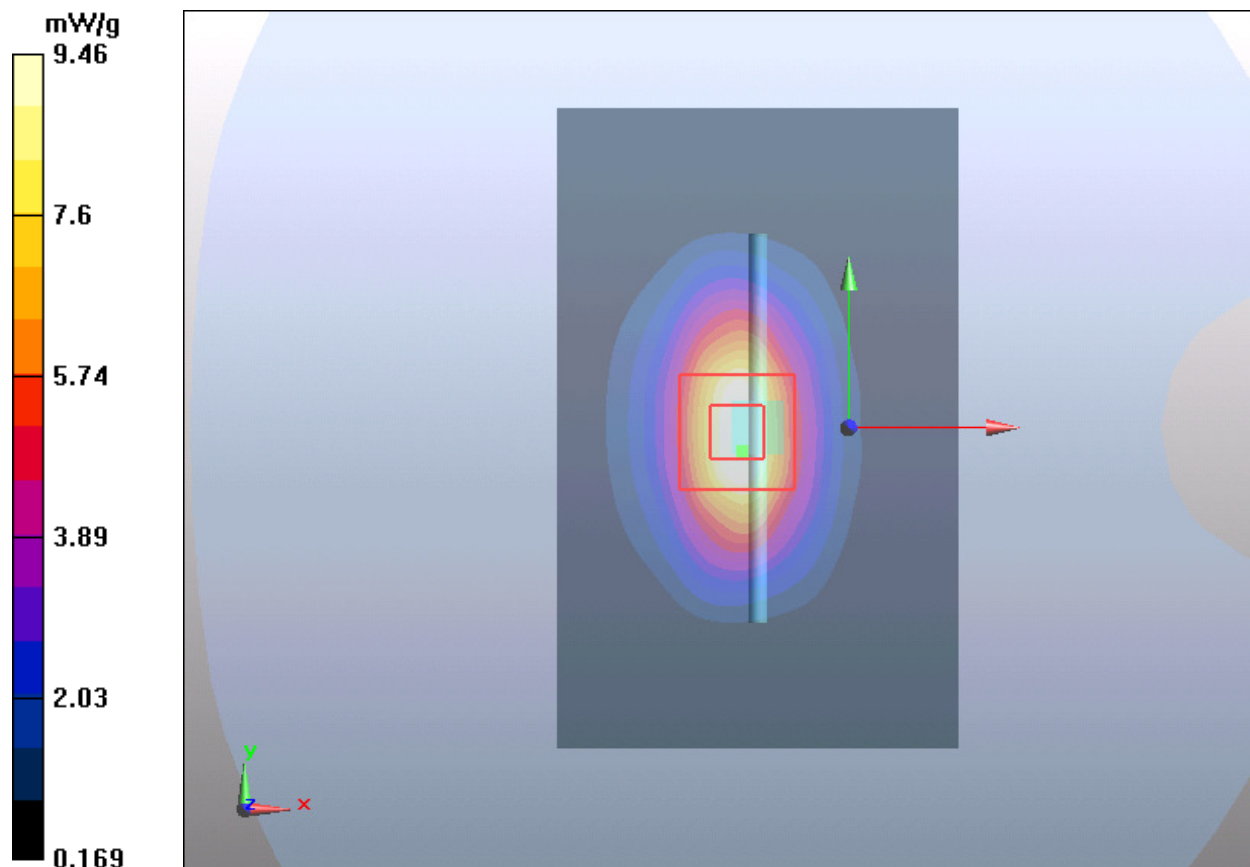
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 80 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 15.5 W/kg

**SAR(1 g) = 8.95 mW/g; SAR(10 g) = 4.5 mW/g**

Maximum value of SAR (measured) = 9.46 mW/g



## Plot 10 System Performance Check at 1750 MHz Head TSL

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 9/21/2017

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.34$  mho/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C

Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.60, 8.60, 8.60); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (51x81x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 9.77 mW/g

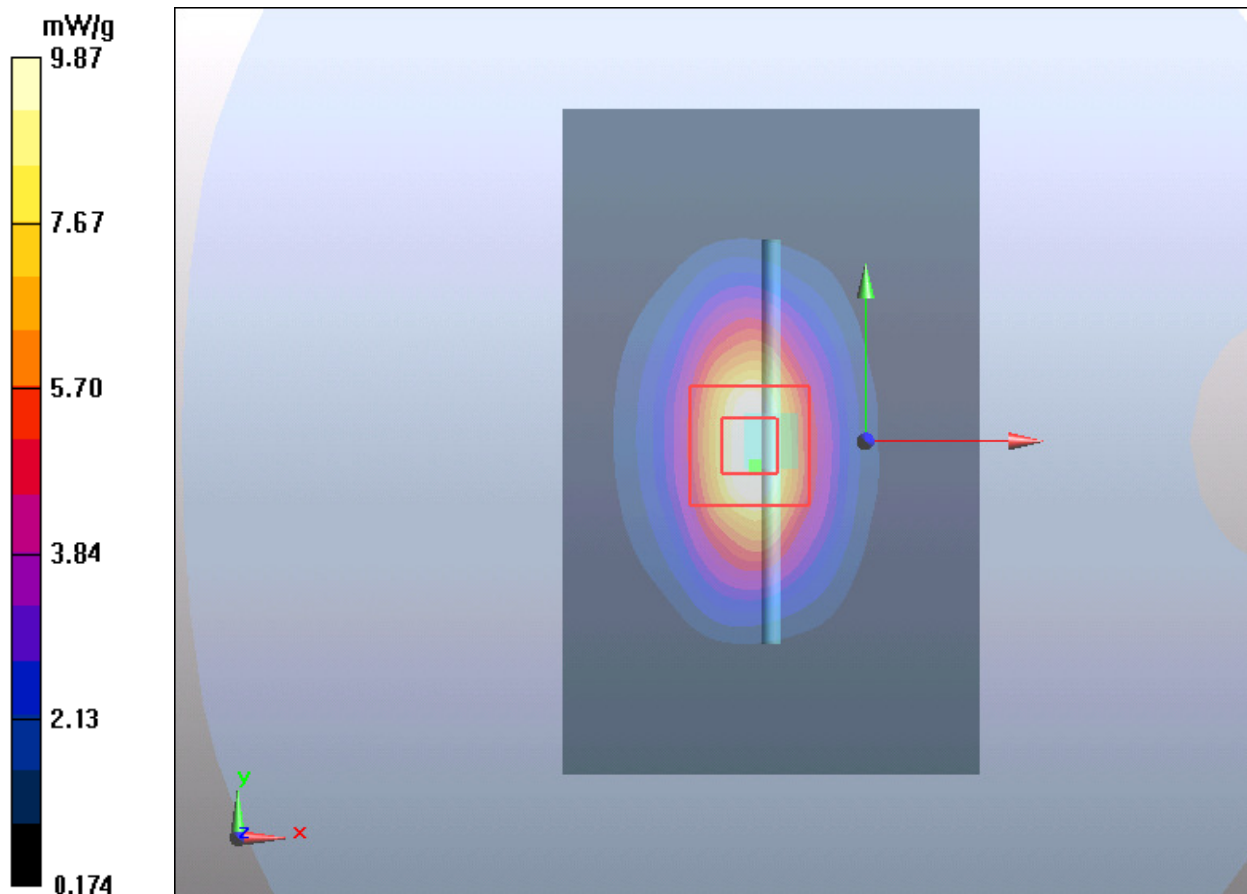
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 80 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 15.51 W/kg

**SAR(1 g) = 9.11 mW/g; SAR(10 g) = 4.77 mW/g**

Maximum value of SAR (measured) = 9.87 mW/g



# Plot 11 System Performance Check at 1750 MHz Body TSL

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 9/10/2017

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.46$  mho/m;  $\epsilon_r = 51.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.7 °C

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (51x81x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 10.6 mW/g

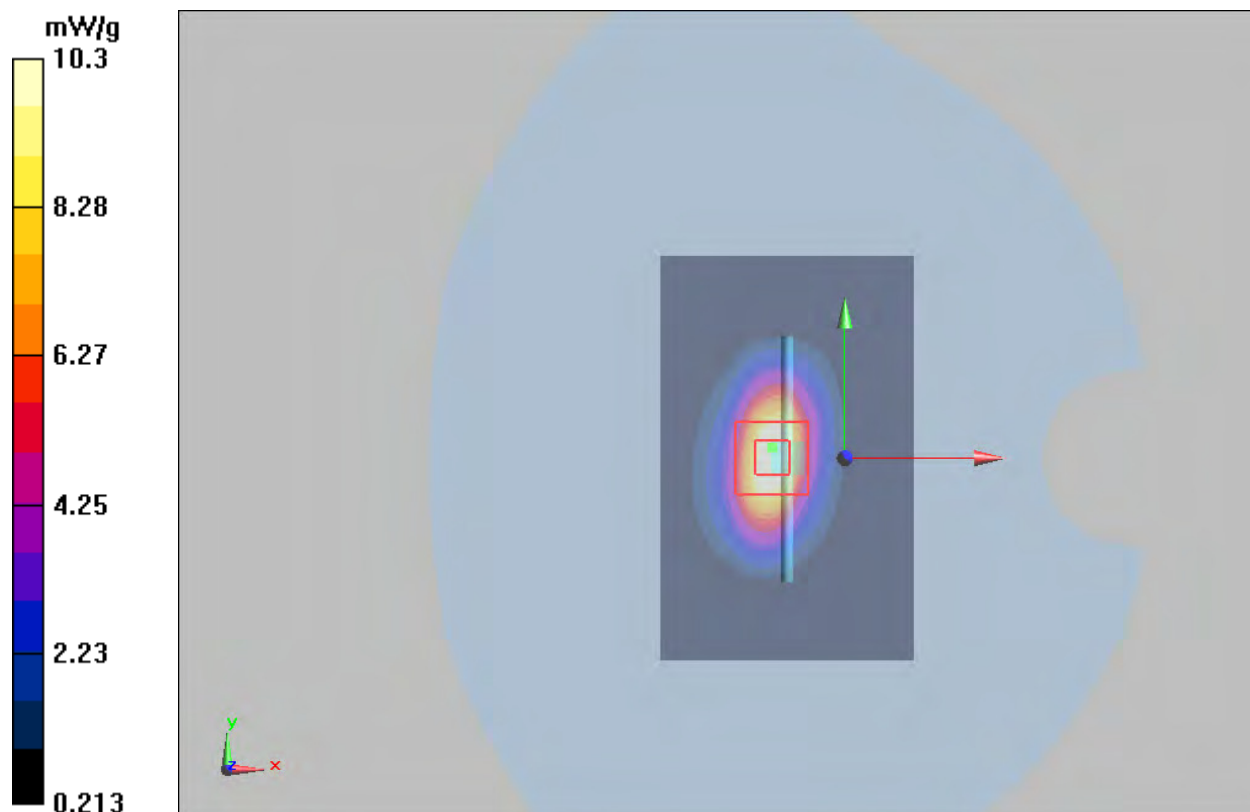
**d=10mm, Pin=250mW/Area Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 77.7 V/m; Power Drift = 0.097 dB

Peak SAR (extrapolated) = 16.8 W/kg

**SAR(1 g) = 9.24 mW/g; SAR(10 g) = 4.9 mW/g**

Maximum value of SAR (measured) = 10.3 mW/g



# Plot 12 System Performance Check at 1750 MHz Body TSL

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 9/15/2017

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.51$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.7 °C

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (51x81x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 10.65 mW/g

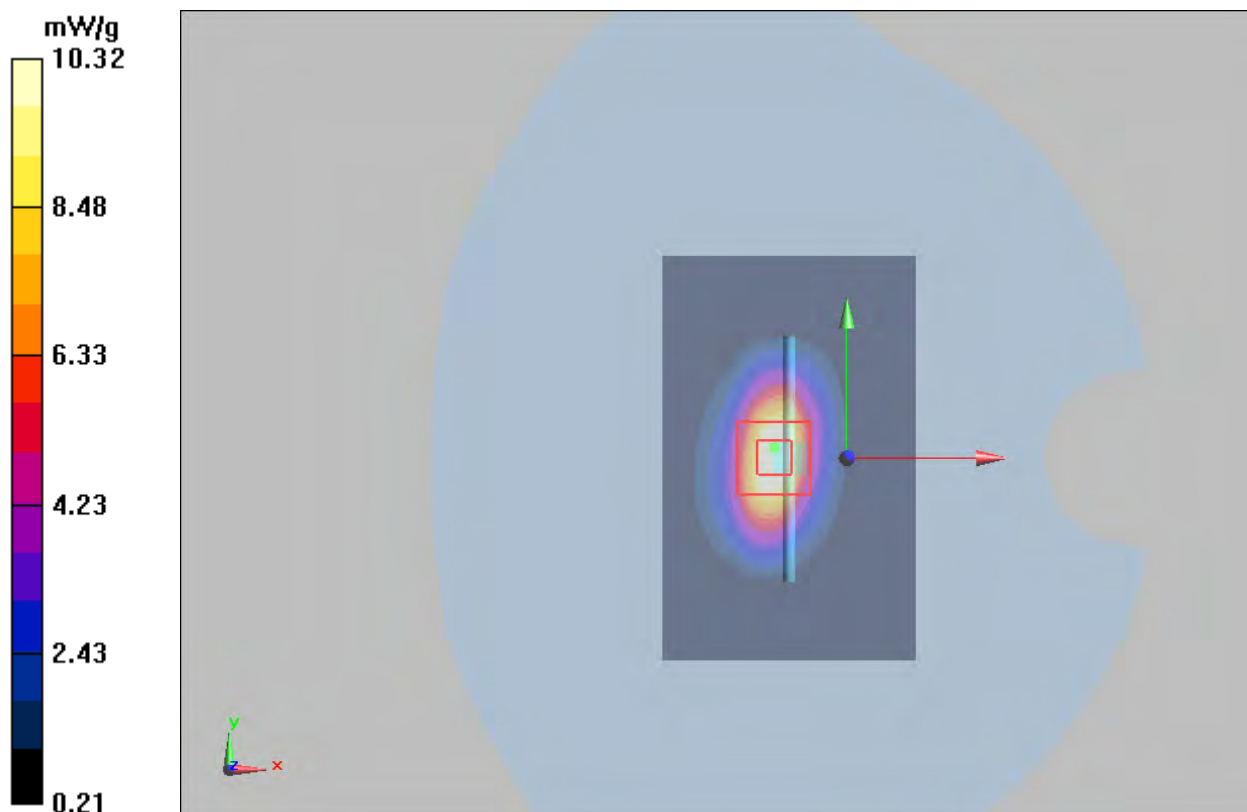
**d=10mm, Pin=250mW/Area Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 77.6 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 16.83 W/kg

**SAR(1 g) = 9.40 mW/g; SAR(10 g) = 5.22 mW/g**

Maximum value of SAR (measured) = 10.32 mW/g



# Plot 13 System Performance Check at 1750 MHz Body TSL

**DUT: Dipole 1750 MHz; Type: D1750V2; Serial: D1750V2 - SN: 1033**

Date: 9/17/2017

Communication System: CW; Frequency: 1750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1750$  MHz;  $\sigma = 1.50$  mho/m;  $\epsilon_r = 53.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.7 °C

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (51x81x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 10.61 mW/g

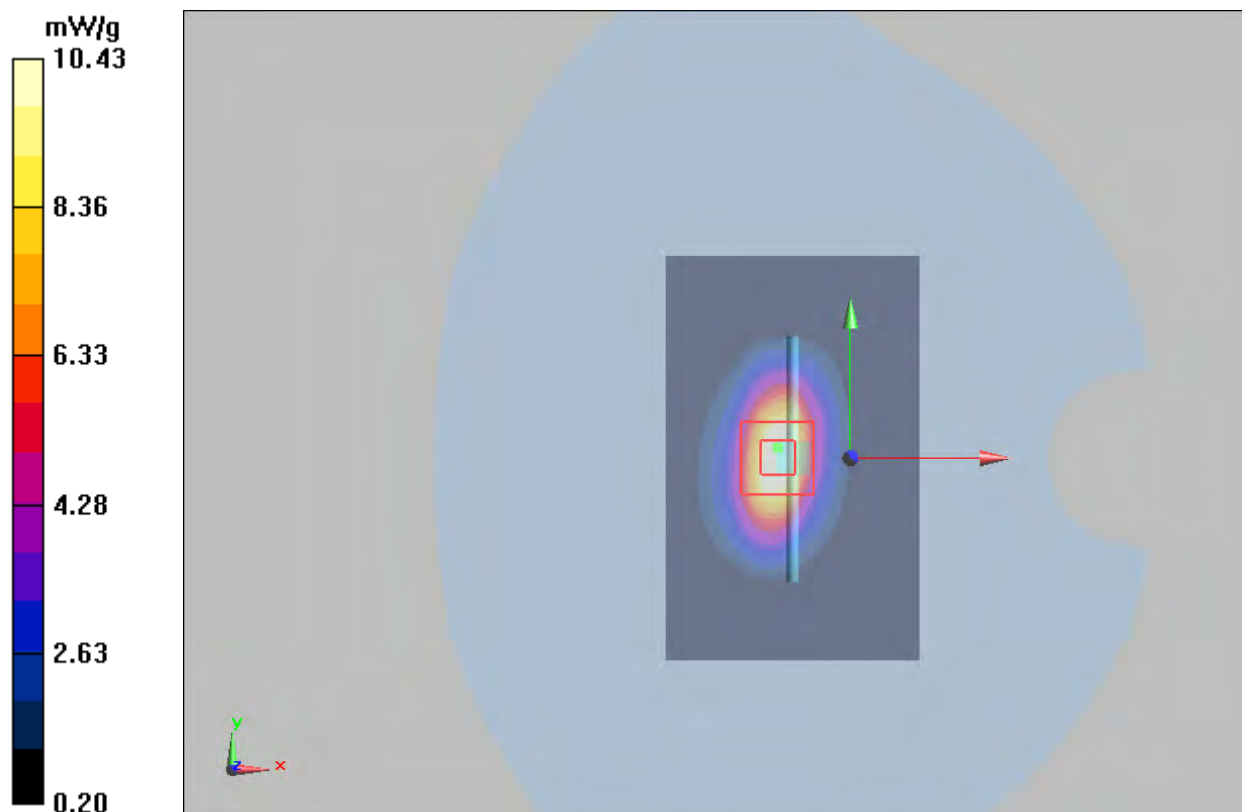
**d=10mm, Pin=250mW/Area Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 76.7 V/m; Power Drift = 0.112 dB

Peak SAR (extrapolated) = 16.8 W/kg

**SAR(1 g) = 9.43 mW/g; SAR(10 g) = 5.20 mW/g**

Maximum value of SAR (measured) = 10.43 mW/g



# Plot 14 System Performance Check at 1900 MHz Head TSL

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 9/20/2017

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 11.3 mW/g

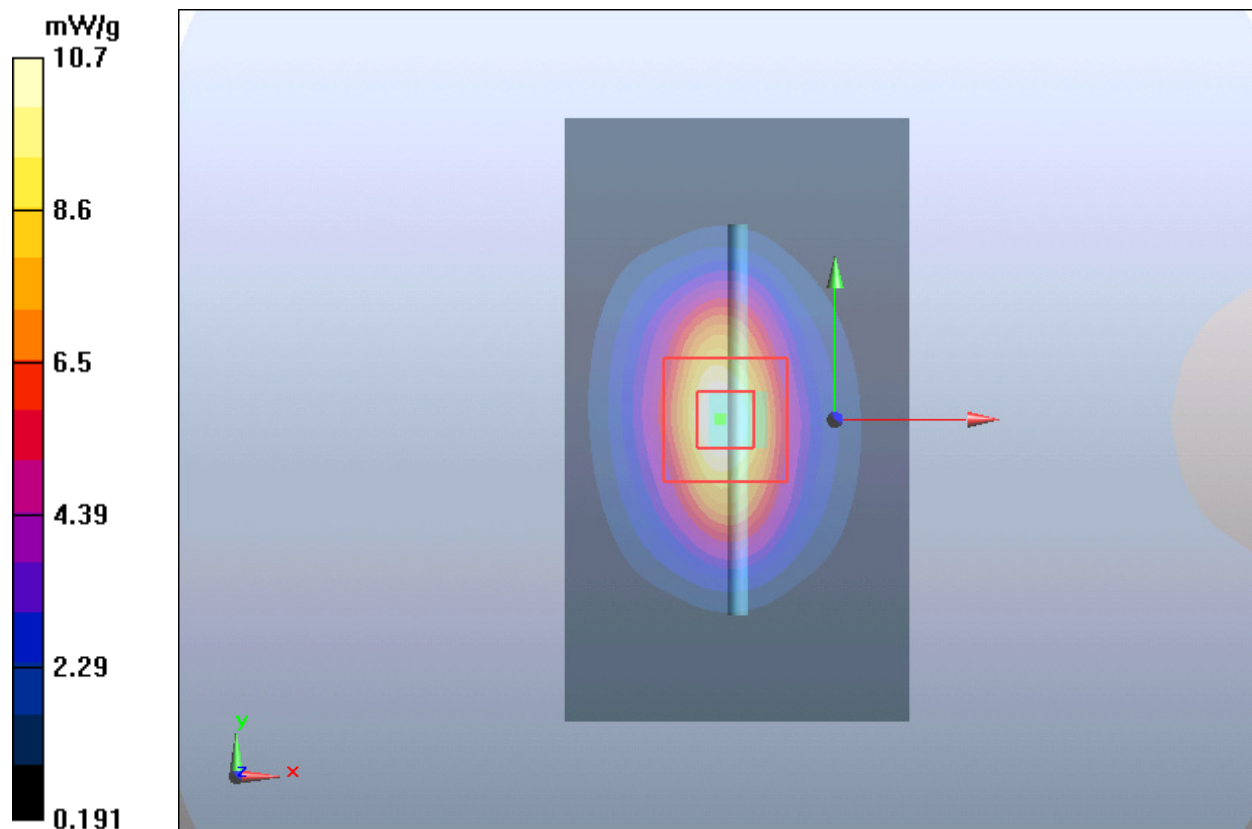
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 85.5 V/m; Power Drift = 0.028 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.88 mW/g; SAR(10 g) = 4.9 mW/g**

Maximum value of SAR (measured) = 10.7 mW/g





# Plot 15 System Performance Check at 1900 MHz Head TSL

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 9/26/2017

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.43$  mho/m;  $\epsilon_r = 40.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 11.23 mW/g

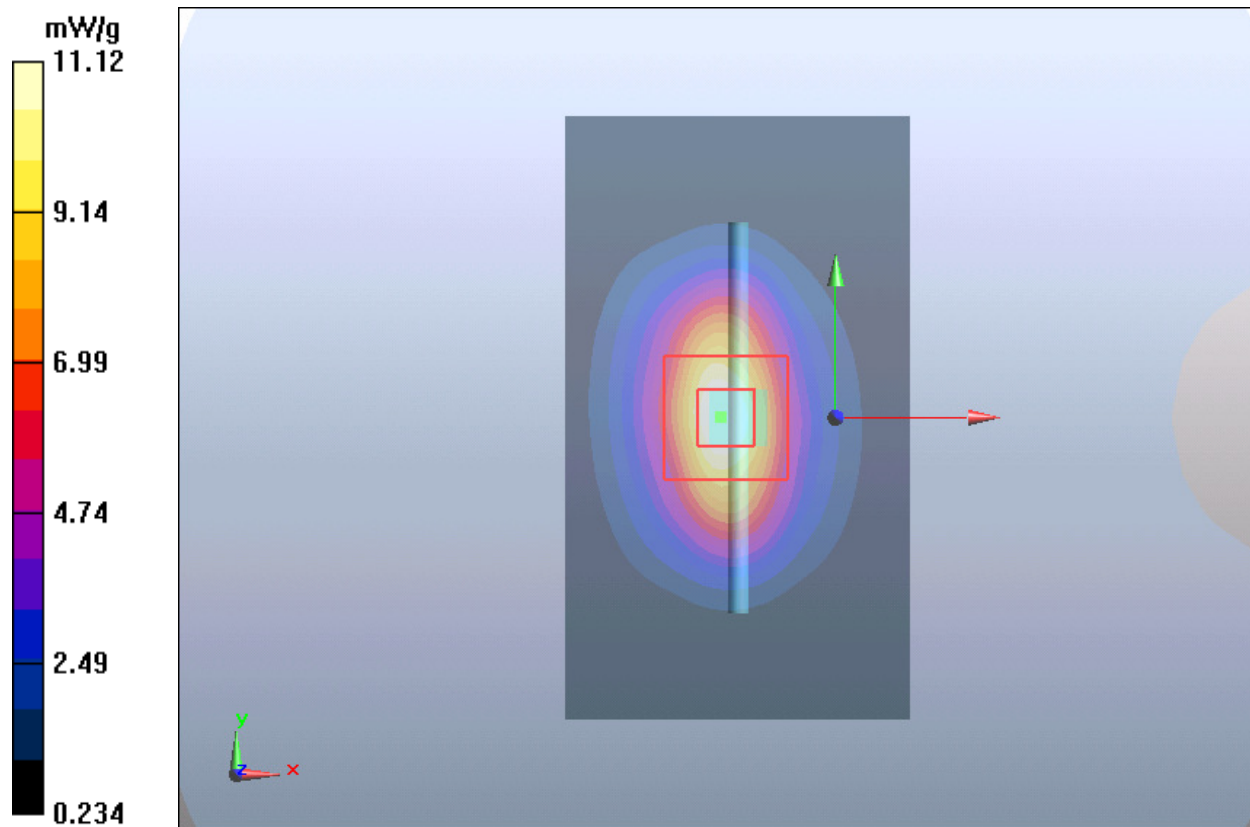
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 85.0 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.85 mW/g; SAR(10 g) = 4.93 mW/g**

Maximum value of SAR (measured) = 11.12 mW/g



## Plot 16 System Performance Check at 1900 MHz Head TSL

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 9/27/2017

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.41$  mho/m;  $\epsilon_r = 40.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C

Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 12.9 mW/g

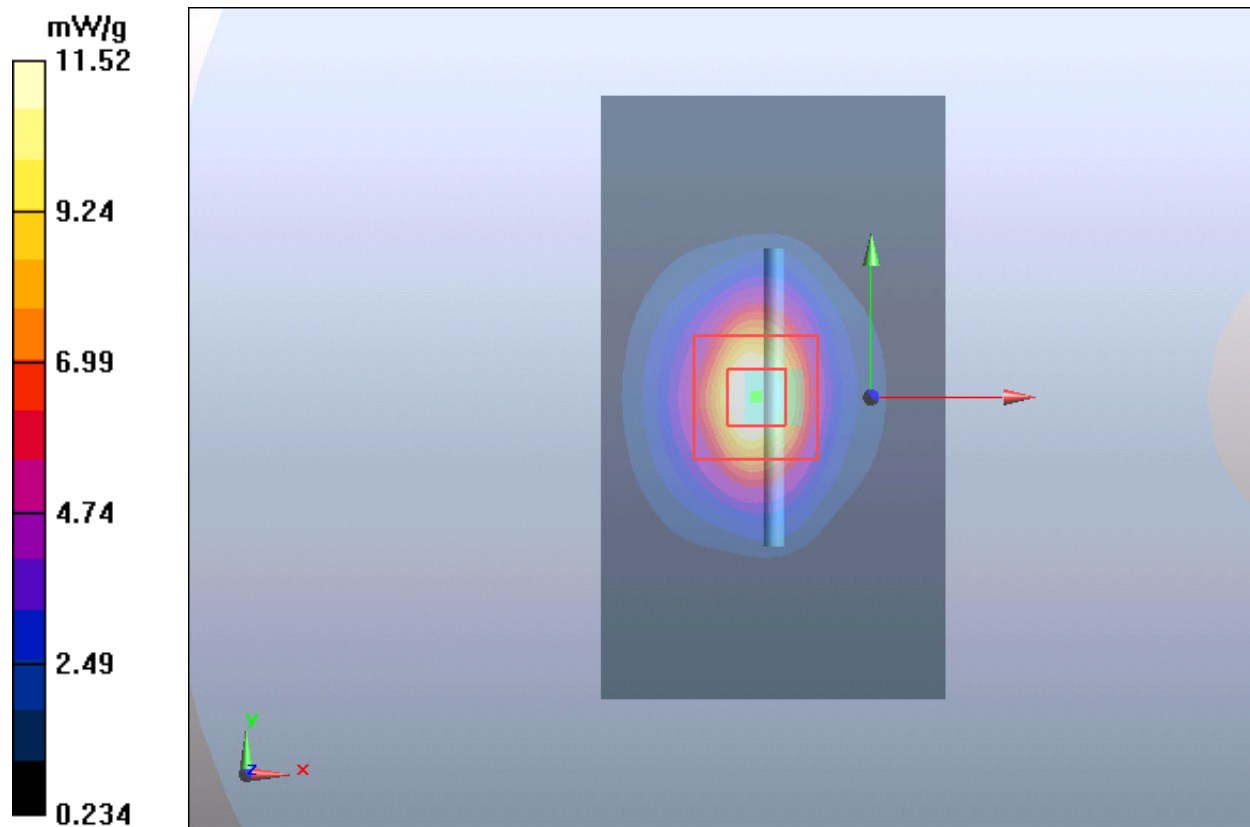
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 87.8 V/m; Power Drift = 0.030 dB

Peak SAR (extrapolated) = 20.1 W/kg

**SAR(1 g) = 10.55 mW/g; SAR(10 g) = 5.39 mW/g**

Maximum value of SAR (measured) = 11.52 mW/g





# Plot 17 System Performance Check at 1900 MHz Body TSL

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 9/21/2017

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.51$  mho/m;  $\epsilon_r = 52.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 12.2 mW/g

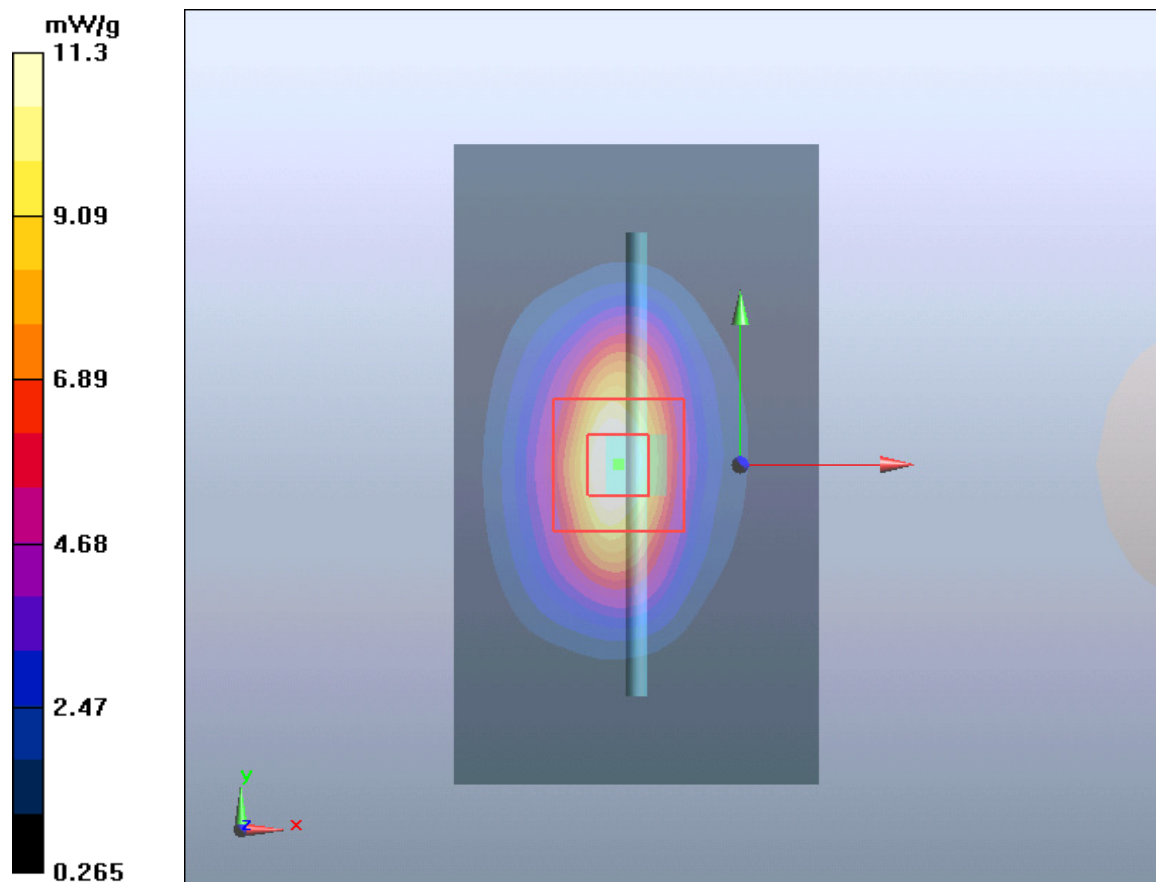
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 82.3 V/m; Power Drift = 0.068 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.93 mW/g; SAR(10 g) = 5.25 mW/g**

Maximum value of SAR (measured) = 11.3 mW/g



# Plot 18 System Performance Check at 1900 MHz Body TSL

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 9/22/2017

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.51$  mho/m;  $\epsilon_r = 53.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 11.9 mW/g

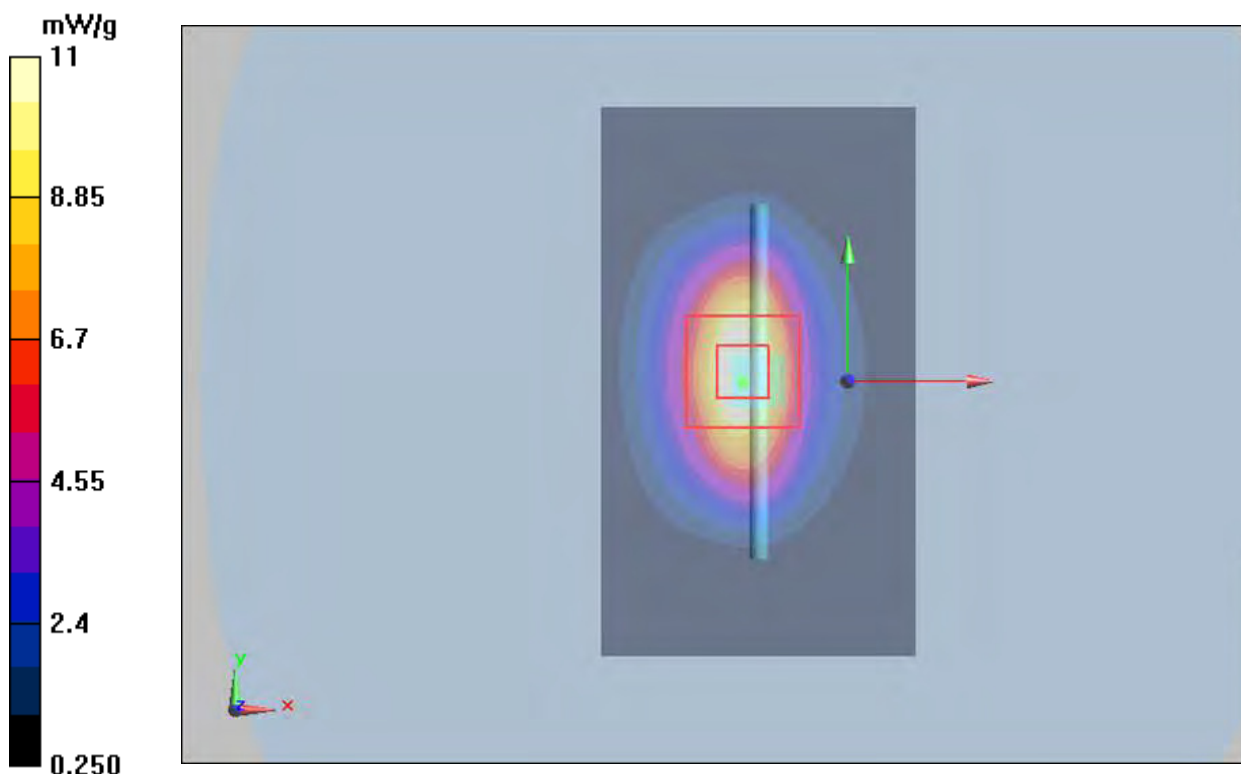
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 80.8 V/m; Power Drift = -0.063 dB

Peak SAR (extrapolated) = 17.6 W/kg

**SAR(1 g) = 9.82 mW/g; SAR(10 g) = 5.2 mW/g**

Maximum value of SAR (measured) = 11 mW/g



# Plot 19 System Performance Check at 1900 MHz Body TSL

**DUT: Dipole 1900 MHz; Type: D1900V2; Serial: D1900V2 - SN: 5d060**

Date: 9/24/2017

Communication System: CW; Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.51$  mho/m;  $\epsilon_r = 52.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C

Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 12.2 mW/g

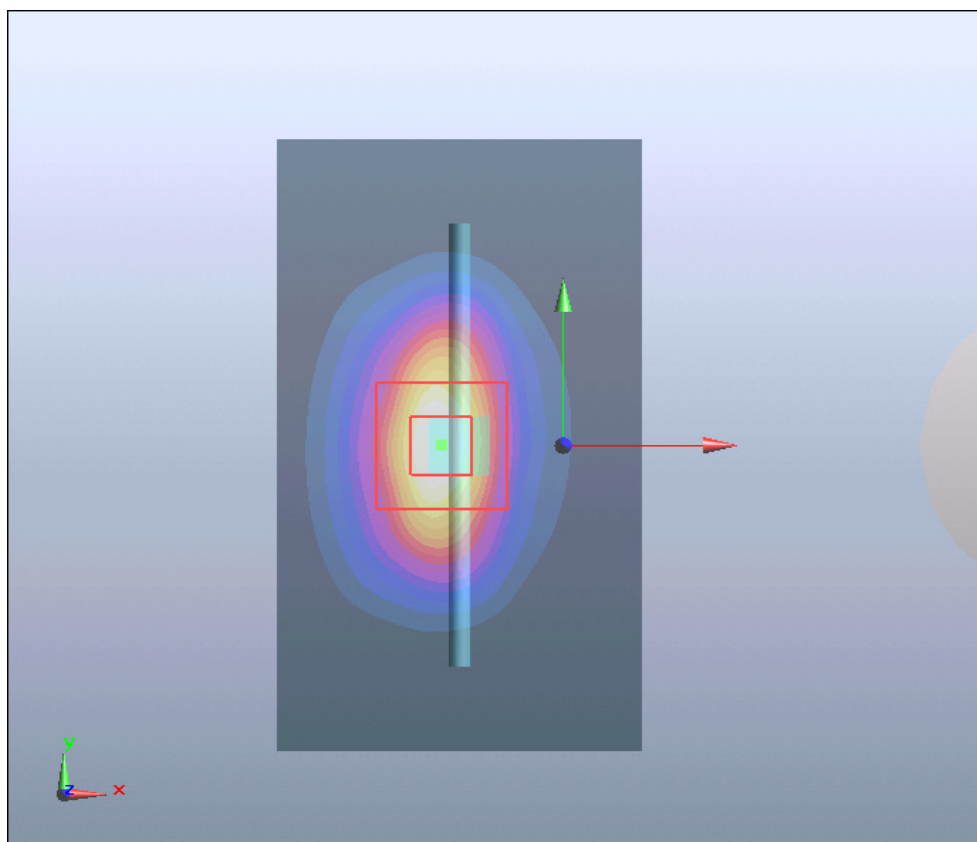
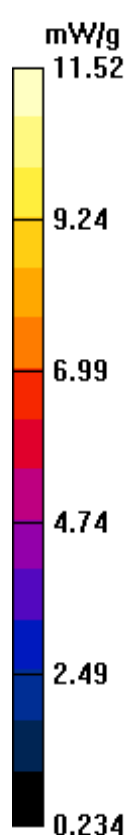
**d=10mm, Pin=250mW/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 82.3 V/m; Power Drift = 0.068 dB

Peak SAR (extrapolated) = 17.8 W/kg

**SAR(1 g) = 9.91 mW/g; SAR(10 g) = 5.23 mW/g**

Maximum value of SAR (measured) = 11.52 mW/g



## Plot 20 System Performance Check at 2450 MHz Head TSL

DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 786

Date: 9/25/2017

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.81$  mho/m;  $\epsilon_r = 38.6$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(7.64, 7.64, 7.64); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 18.2 mW/g

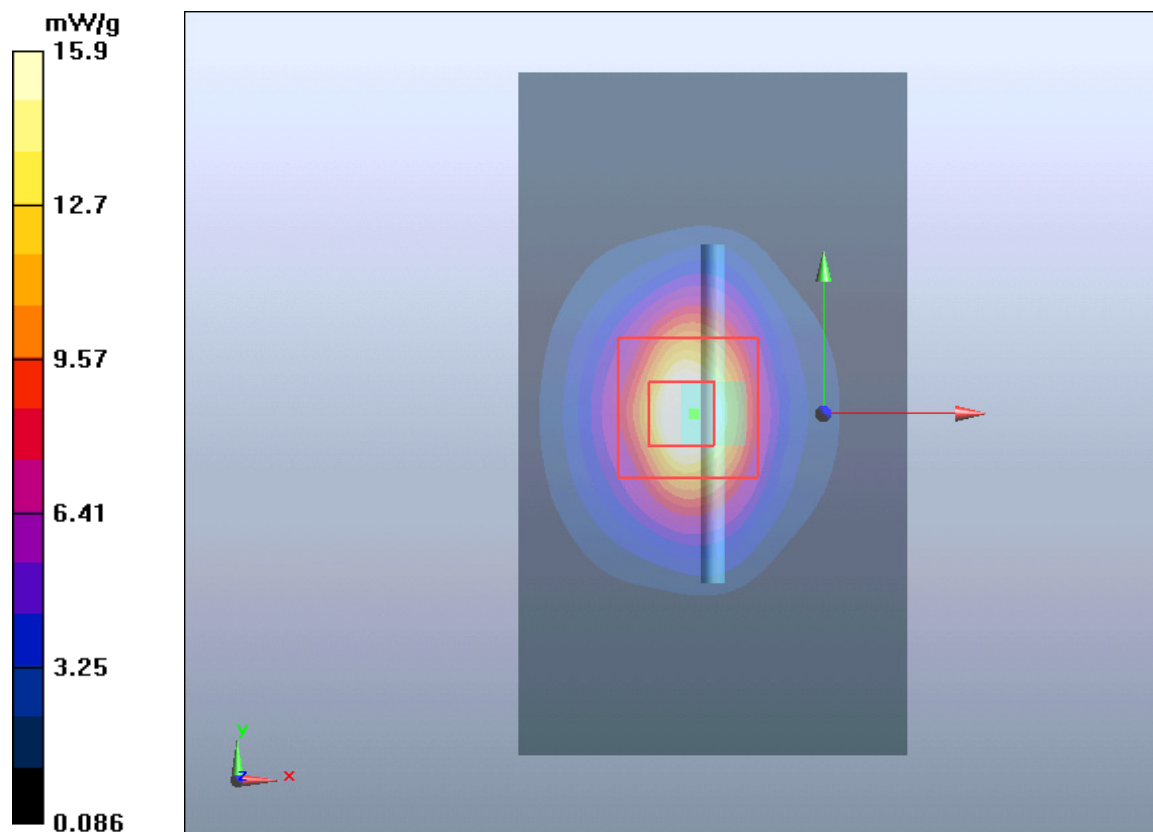
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 88.8 V/m; Power Drift = 0.075 dB

Peak SAR (extrapolated) = 30 W/kg

**SAR(1 g) = 13.7 mW/g; SAR(10 g) = 6.22 mW/g**

Maximum value of SAR (measured) = 15.9 mW/g



## Plot 21 System Performance Check at 2450 MHz Body TSL

**DUT: Dipole 2450 MHz; Type: D2450V2; Serial: D2450V2 - SN: 786**

Date: 9/23/2017

Communication System: CW; Frequency: 2450 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2450$  MHz;  $\sigma = 1.98$  mho/m;  $\epsilon_r = 52.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 16 mW/g

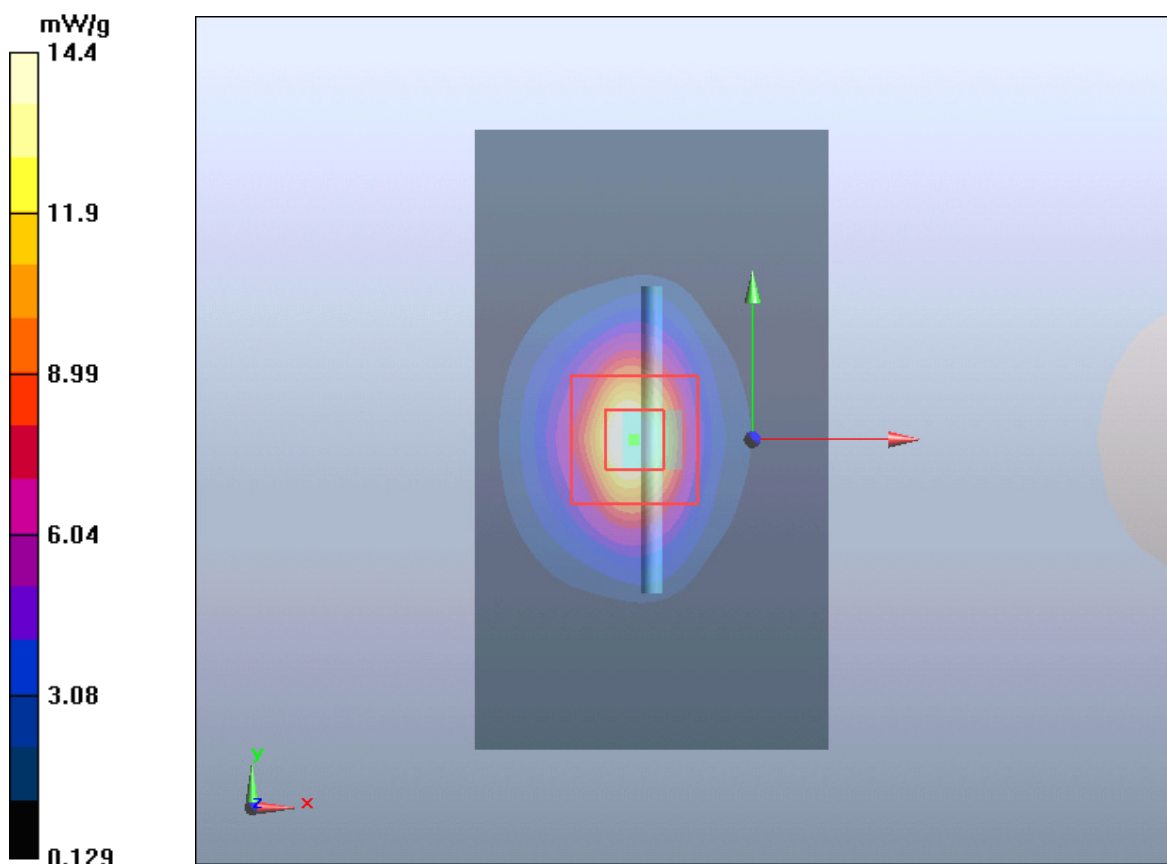
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 81.2 V/m; Power Drift = 0.003 dB

Peak SAR (extrapolated) = 25.4 W/kg

**SAR(1 g) = 12.5 mW/g; SAR(10 g) = 6.20 mW/g**

Maximum value of SAR (measured) = 14.4 mW/g





## Plot 22 System Performance Check at 2600 MHz Head TSL

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 9/16/2017

Communication System: CW; Frequency: 2600 MHz

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 38.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 17.439 mW/g

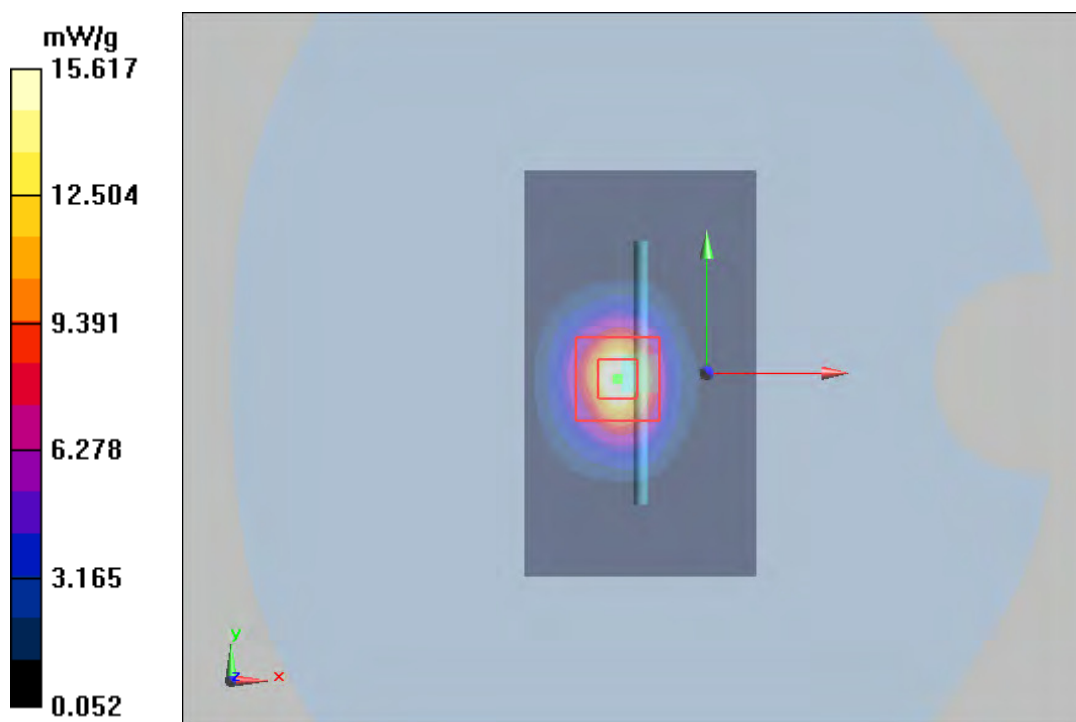
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 31.858 W/kg

**SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.07 mW/g**

Maximum value of SAR (measured) = 15.617 mW/g



## Plot 23 System Performance Check at 2600 MHz Head TSL

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 9/17/2017

Communication System: CW; Frequency: 2600 MHz

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 1.94$  mho/m;  $\epsilon_r = 38.4$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 17.59 mW/g

**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 31.858 W/kg

**SAR(1 g) = 13.88 mW/g; SAR(10 g) = 6.09 mW/g**

Maximum value of SAR (measured) = 15.66 mW/g



## Plot 24 System Performance Check at 2600 MHz Head TSL

DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025

Date: 9/18/2017

Communication System: CW; Frequency: 2600 MHz

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.01$  mho/m;  $\epsilon_r = 38.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 17.439 mW/g

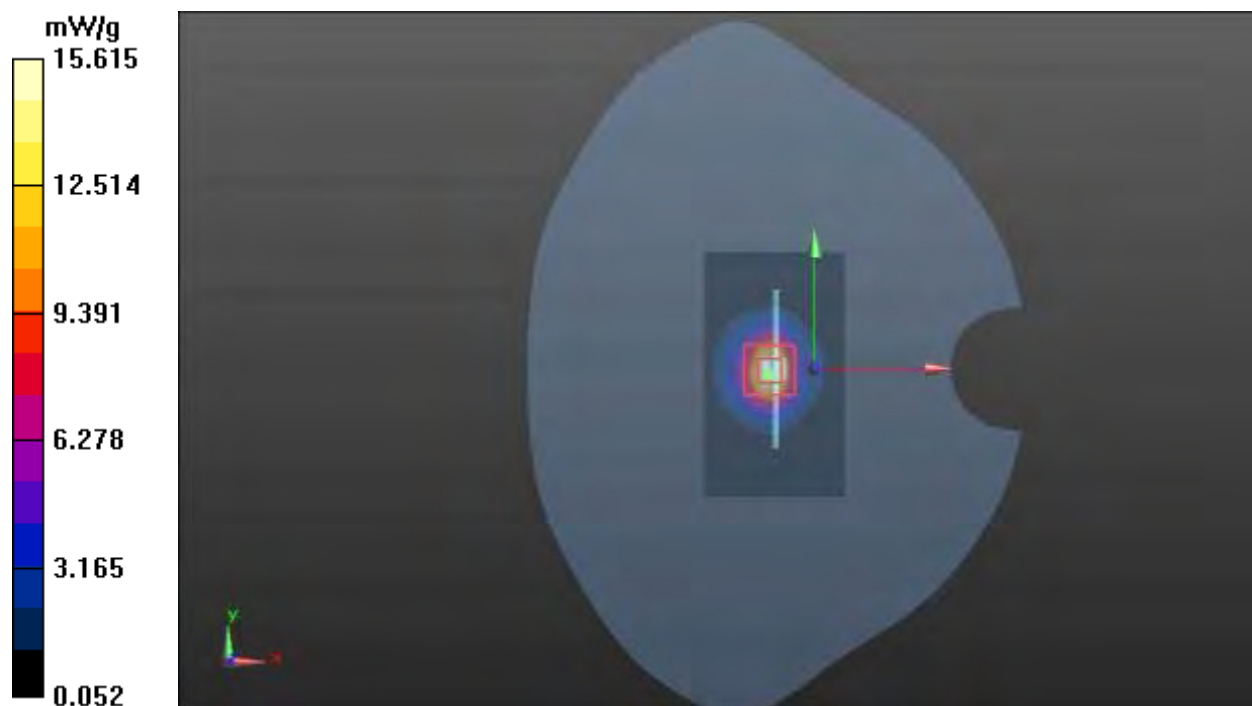
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 87.998 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 31.858 W/kg

**SAR(1 g) = 13.9 mW/g; SAR(10 g) = 6.08 mW/g**

Maximum value of SAR (measured) = 15.615 mW/g





## Plot 25 System Performance Check at 2600 MHz Body TSL

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 9/15/2017

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.23$  mho/m;  $\epsilon_r = 51.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW /Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 17.7 mW/g

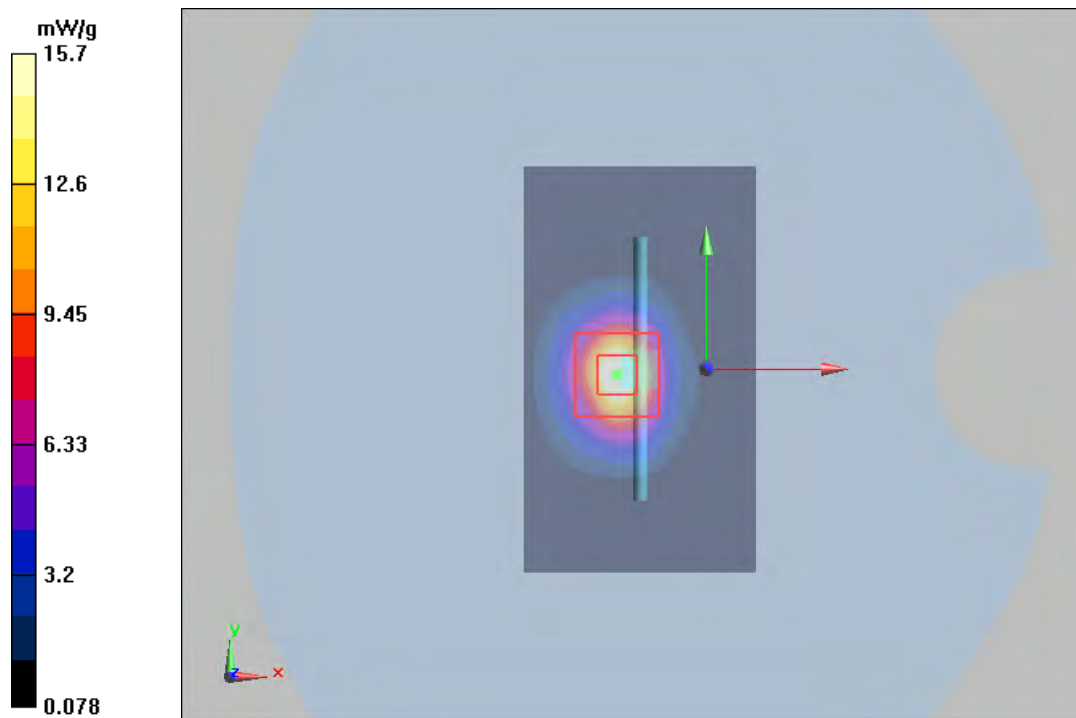
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 74 V/m; Power Drift = -0.0027 dB

Peak SAR (extrapolated) = 28.5 W/kg

**SAR(1 g) = 13.5 mW/g; SAR(10 g) = 5.99 mW/g**

Maximum value of SAR (measured) = 15.7 mW/g



## Plot 26 System Performance Check at 2600 MHz Body TSL

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 9/18/2017

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.21$  mho/m;  $\epsilon_r = 51.7$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW /Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 17.67 mW/g

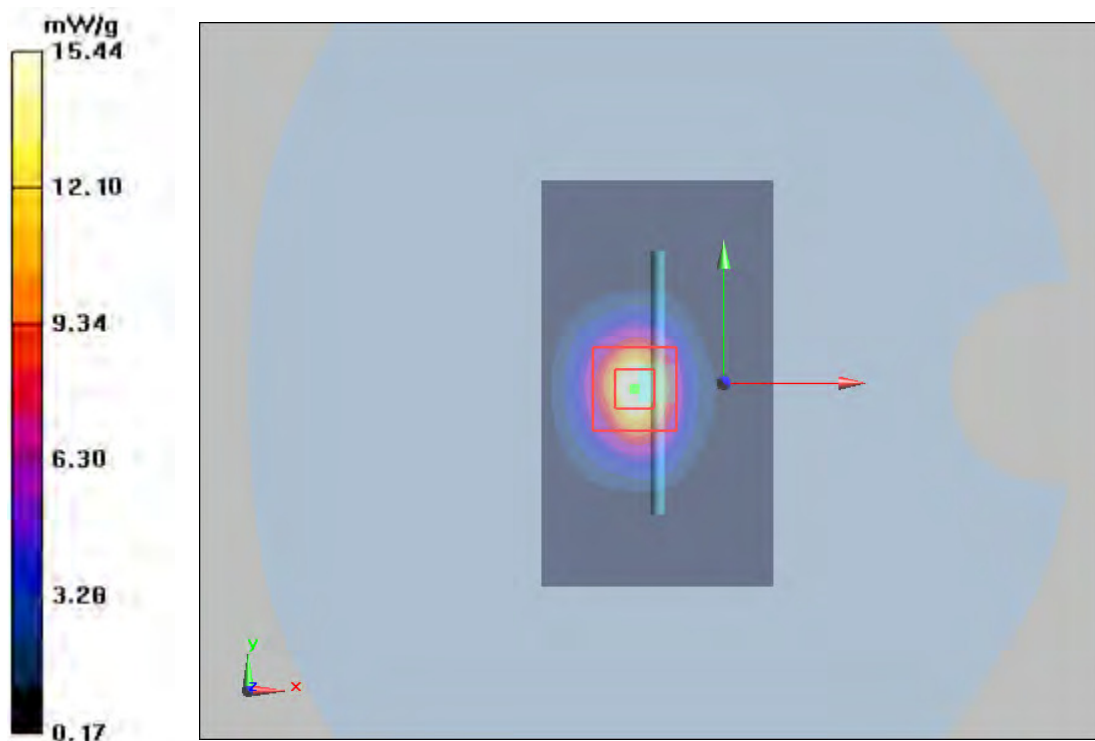
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 74 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 28.5 W/kg

**SAR(1 g) = 13.55 mW/g; SAR(10 g) = 5.89 mW/g**

Maximum value of SAR (measured) = 15.44 mW/g



## Plot 27 System Performance Check at 2600 MHz Body TSL

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN: 1025**

Date: 9/19/2017

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.20$  mho/m;  $\epsilon_r = 51.8$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW /Area Scan (41x71x1):** Measurement grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 17.58 mW/g

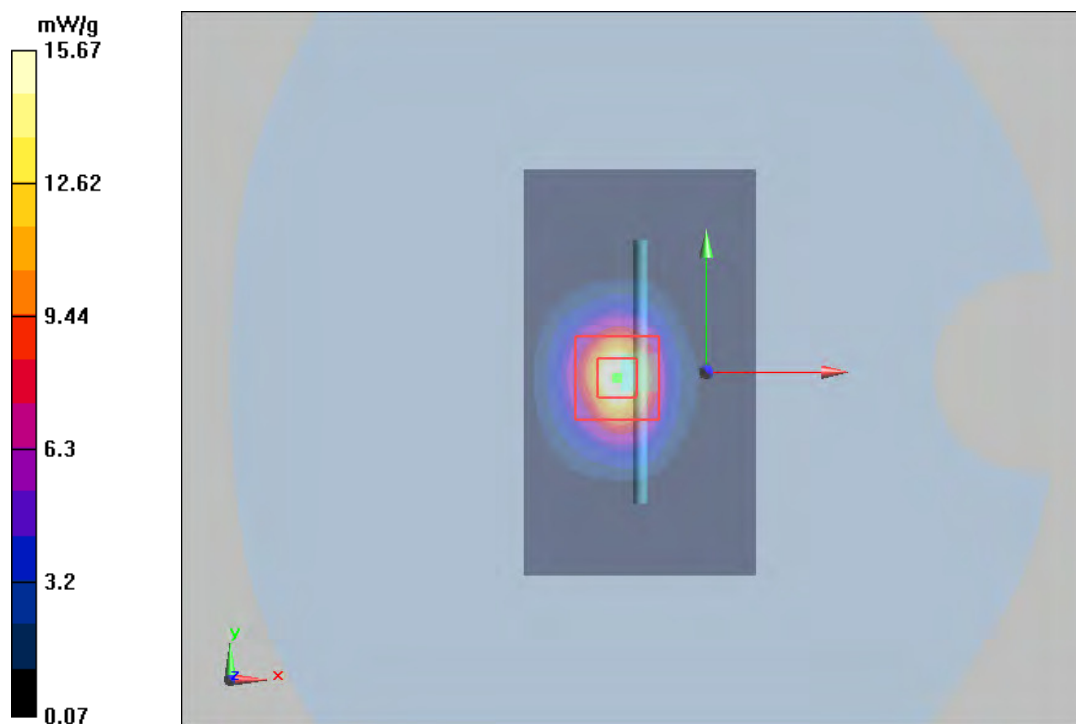
**d=10mm, Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 74.40 V/m; Power Drift = -0.101 dB

Peak SAR (extrapolated) = 28.5 W/kg

**SAR(1 g) = 13.89 mW/g; SAR(10 g) = 5.94 mW/g**

Maximum value of SAR (measured) = 15.67 mW/g



## Plot 28 System Performance Check at 5250 MHz Head TSL

DUT: Dipole 5250 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151

Date: 9/24/2017

Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5250$  MHz;  $\sigma = 4.80$  mho/m;  $\epsilon_r = 35.5$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.66, 5.66, 5.66); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW/Area Scan (61x101x1):** Measurement grid: dx=1.000mm, dy=1.000mm

Maximum value of SAR (interpolated) = 9.14 mW/g

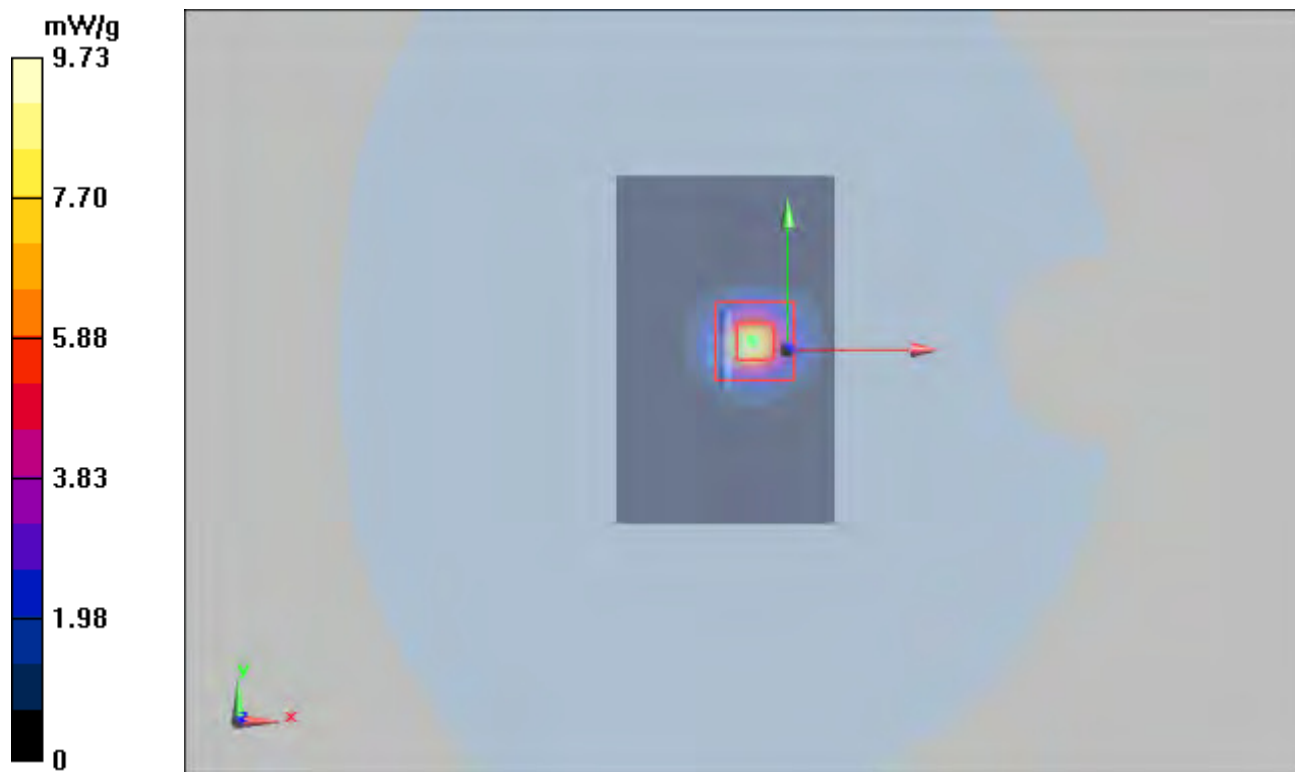
**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 33.6 V/m; Power Drift = -0.095 dB

Peak SAR (extrapolated) = 52.2 W/kg

**SAR(1 g) = 7.87 mW/g; SAR(10 g) = 2.25 mW/g**

Maximum value of SAR (measured) = 9.73 mW/g



## Plot 29 System Performance Check at 5250 MHz Body TSL

**DUT: Dipole 5250 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 9/22/2017

Communication System: CW; Frequency: 5250 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5250$  MHz;  $\sigma = 5.32$  mho/m;  $\epsilon_r = 48.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: ELI v5.0 (30deg probe tilt); Type: QDOVA002AA;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x101x1):** Measurement grid: dx=1.000mm, dy=1.000mm

Maximum value of SAR (interpolated) = 7.69 mW/g

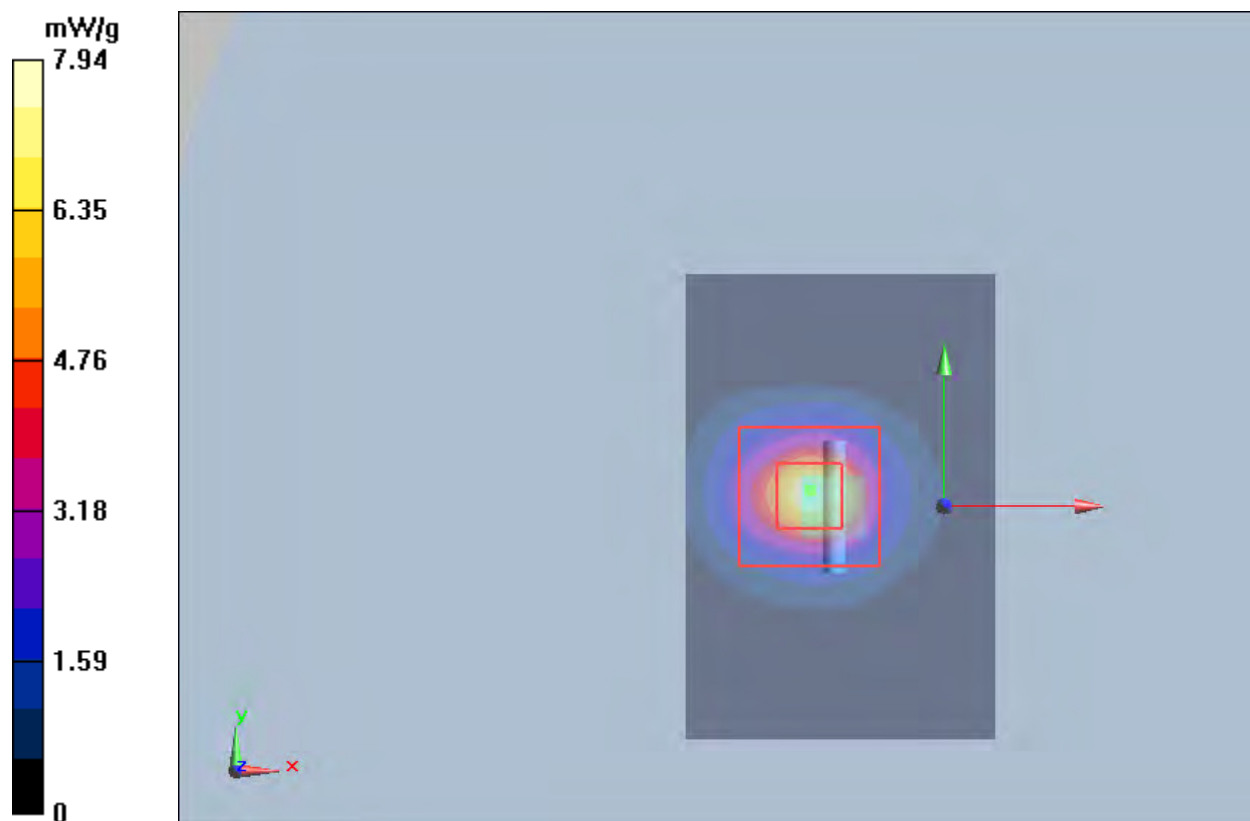
**d=10mm, Pin=250mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 36.3 V/m; Power Drift = 0.0277 dB

Peak SAR (extrapolated) = 47.7 W/kg

**SAR(1 g) = 7.46 mW/g; SAR(10 g) = 2.26 mW/g**

Maximum value of SAR (measured) = 7.94 mW/g



# Plot 30 System Performance Check at 5600 MHz Head TSL

**DUT: Dipole 5600 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 9/24/2017

Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.21$  mho/m;  $\epsilon_r = 34.2$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.99, 4.99, 4.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW/Area Scan (61x101x1):** Measurement grid: dx=1.000mm, dy=1.000mm

Maximum value of SAR (interpolated) = 8.25 mW/g

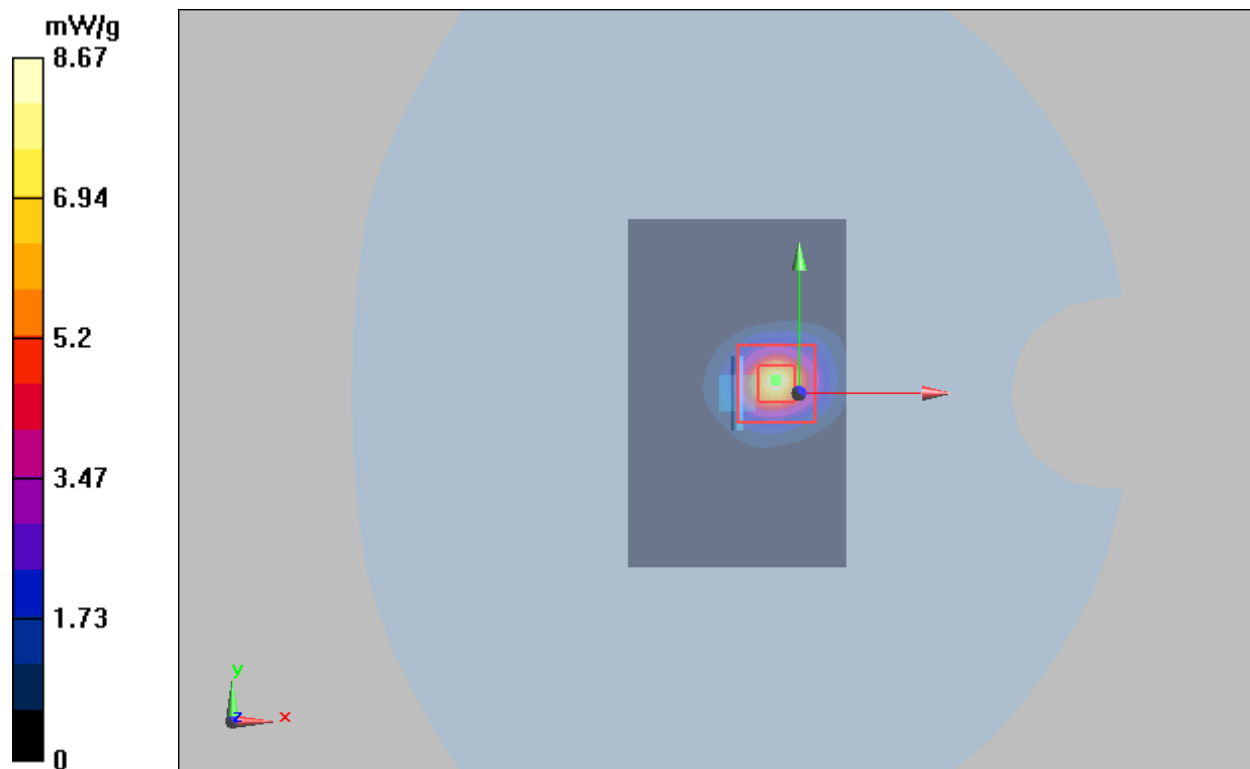
**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 23.1 V/m; Power Drift = -0.028 dB

Peak SAR (extrapolated) = 22.9 W/kg

**SAR(1 g) = 7.67 mW/g; SAR(10 g) = 2.27 mW/g**

Maximum value of SAR (measured) = 8.67 mW/g



# Plot 31 System Performance Check at 5600 MHz Body TSL

**DUT: Dipole 5600 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 9/23/2017

Communication System: CW; Frequency: 5600 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5600$  MHz;  $\sigma = 5.78$  mho/m;  $\epsilon_r = 47.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.34, 4.34, 4.34); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: ELI v5.0 (30deg probe tilt); Type: QDOVA002AA;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x101x1):** Measurement grid: dx=1.000mm, dy=1.000mm

Maximum value of SAR (interpolated) = 7.84 mW/g

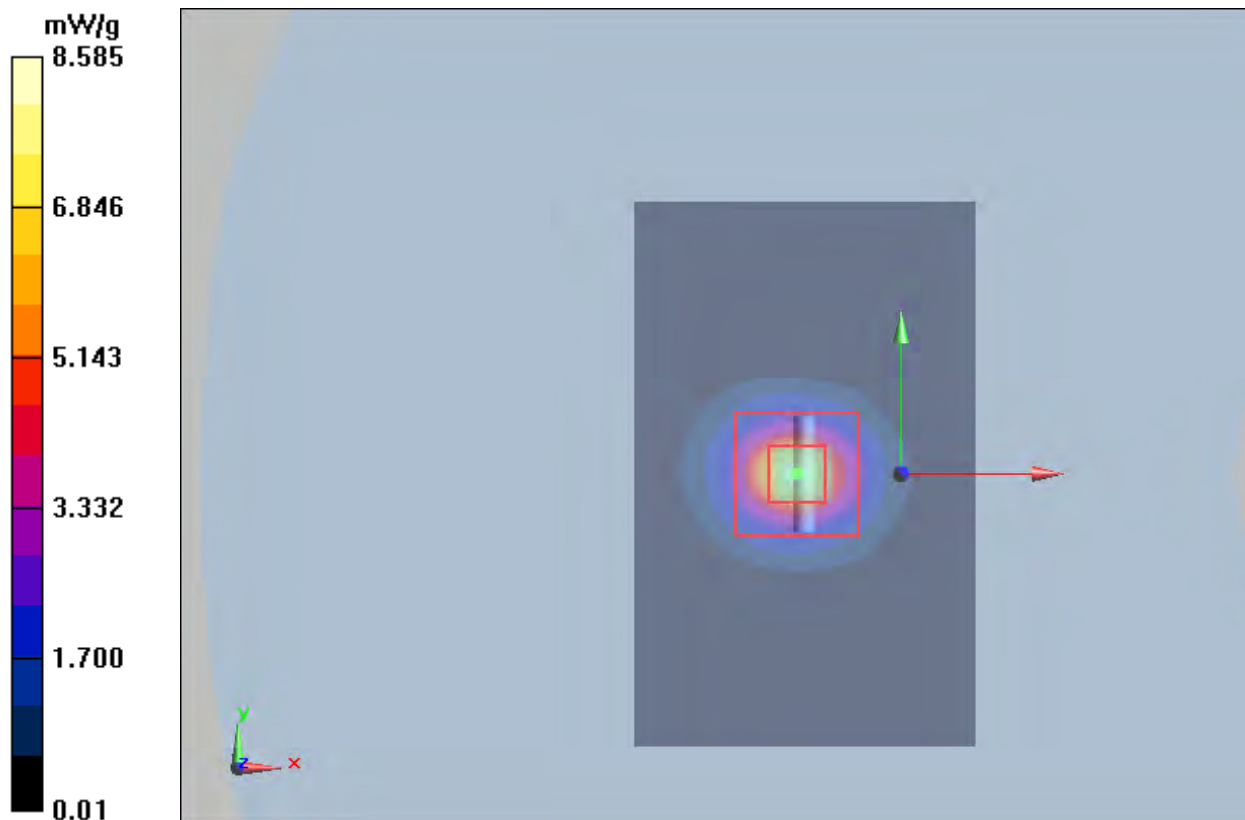
**d=10mm, Pin=250mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 38 V/m; Power Drift = -0.018 dB

Peak SAR (extrapolated) = 22.6 W/kg

**SAR(1 g) = 8.10 mW/g; SAR(10 g) = 2.11 mW/g**

Maximum value of SAR (measured) = 8.585 mW/g



# Plot 32 System Performance Check at 5750 MHz Head TSL

DUT: Dipole 5750 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151

Date: 9/25/2017

Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5750$  MHz;  $\sigma = 5.21$  mho/m;  $\epsilon_r = 34.9$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.00, 5.00, 5.00); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=100mW/Area Scan (61x101x1):** Measurement grid: dx=1.000mm, dy=1.000mm

Maximum value of SAR (interpolated) = 8.31 mW/g

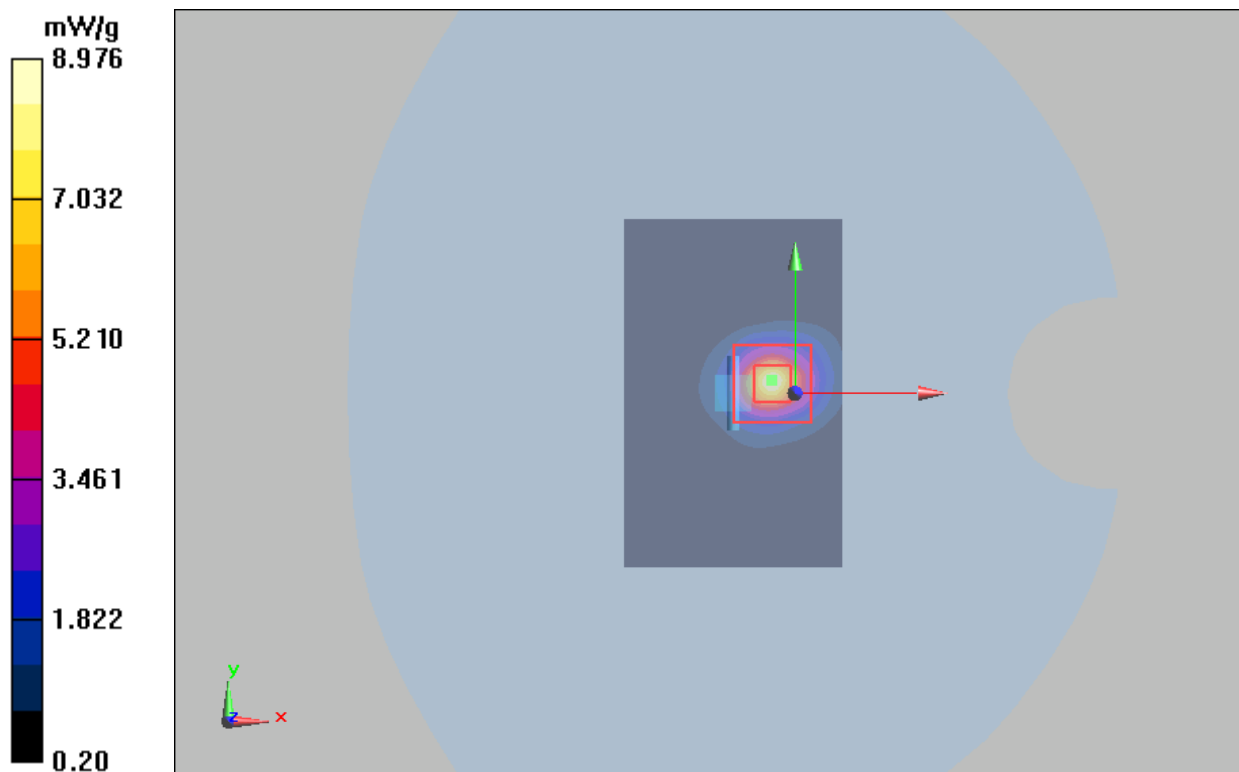
**d=10mm, Pin=100mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 23.1 V/m; Power Drift = 0.044 dB

Peak SAR (extrapolated) = 23.4 W/kg

**SAR(1 g) = 7.66 mW/g; SAR(10 g) = 2.27 mW/g**

Maximum value of SAR (measured) = 8.976 mW/g





# Plot 33 System Performance Check at 5750 MHz Body TSL

**DUT: Dipole 5750 MHz; Type: D5GHzV2; Serial: D5GHzV2 - SN: 1151**

Date: 9/26/2017

Communication System: CW; Frequency: 5750 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5750 \text{ MHz}$ ;  $\sigma = 6.14 \text{ mho/m}$ ;  $\epsilon_r = 47.6$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$       Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: ELI v5.0 (30deg probe tilt); Type: QDOVA002AA;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**d=10mm, Pin=250mW/Area Scan (61x101x1):** Measurement grid:  $dx=1.000\text{mm}$ ,  $dy=1.000\text{mm}$

Maximum value of SAR (interpolated) =  $7.84 \text{ mW/g}$

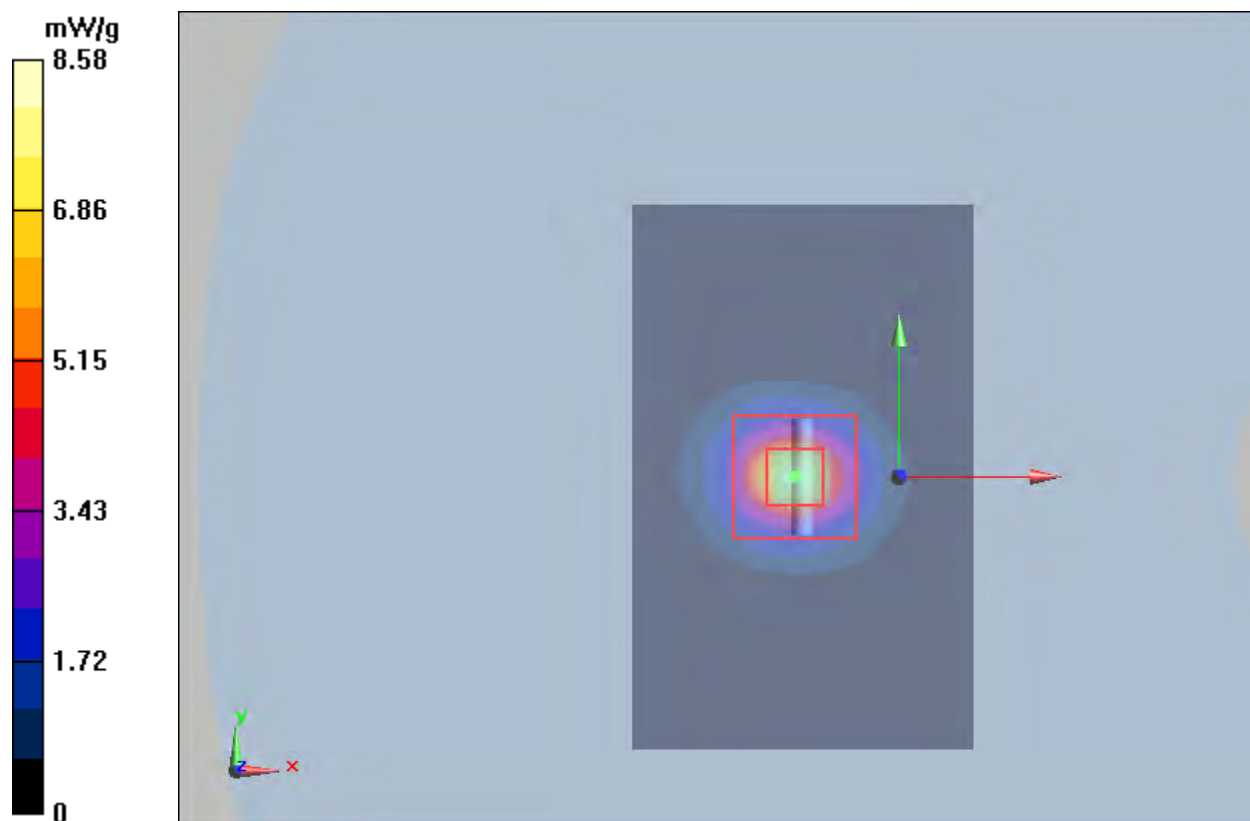
**d=10mm, Pin=250mW/Zoom Scan (7x7x12)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value =  $38 \text{ V/m}$ ; Power Drift =  $-0.018 \text{ dB}$

Peak SAR (extrapolated) =  $22.6 \text{ W/kg}$

**SAR(1 g) =  $7.15 \text{ mW/g}$ ; SAR(10 g) =  $1.99 \text{ mW/g}$**

Maximum value of SAR (measured) =  $8.58 \text{ mW/g}$



## ANNEX C: Highest Graph Results

### Antenna 1

#### Plot 34 GSM 850 Right Cheek Middle

Date: 9/12/2017

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.94$  S/m;  $\epsilon_r = 42.425$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.291 W/kg

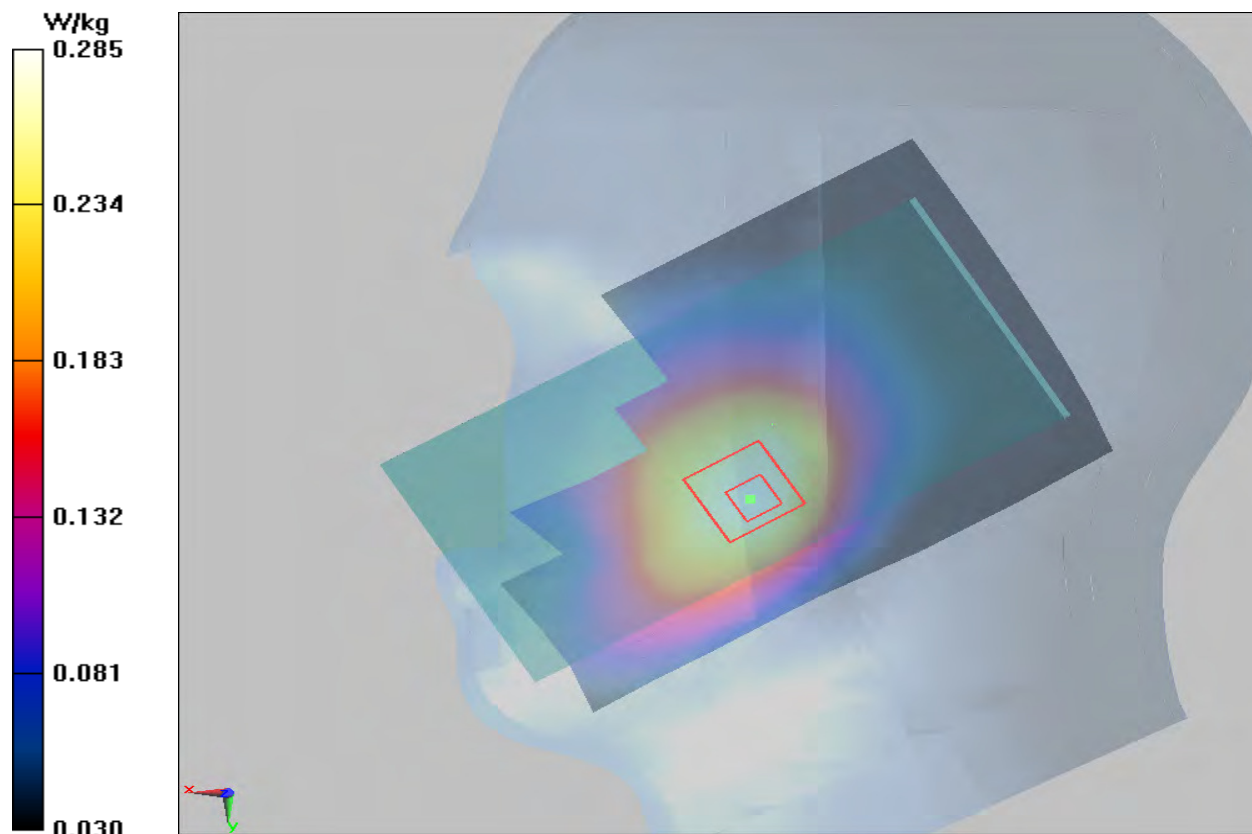
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.526 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.335 W/kg

**SAR(1 g) = 0.270 W/kg; SAR(10 g) = 0.207 W/kg**

Maximum value of SAR (measured) = 0.285 W/kg



# Plot 35 GSM 850 Back Side Middle (Distance 15mm)

Date: 9/13/2017

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 55.395$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.403 W/kg

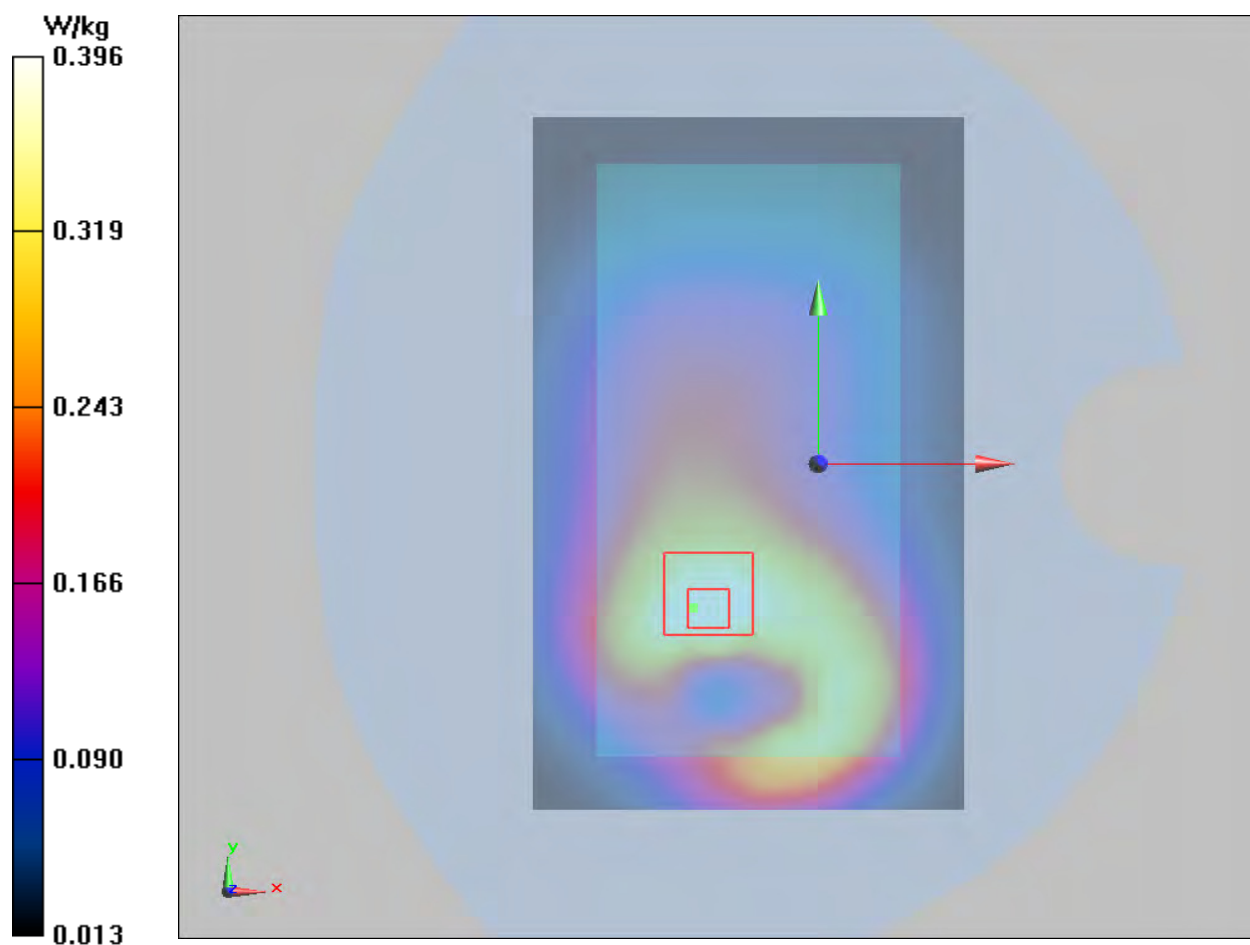
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 14.28 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.513 W/kg

**SAR(1 g) = 0.373 W/kg; SAR(10 g) = 0.259 W/kg**

Maximum value of SAR (measured) = 0.396 W/kg



# Plot 36 GSM 850 GPRS (2Txslots) Back Side High (Distance 10mm)

Date: 9/13/2017

Communication System: UID 0, GPRS 2TX (0); Frequency: 848.8 MHz; Duty Cycle: 1:4.14954

Medium parameters used:  $f = 849$  MHz;  $\sigma = 1.014$  S/m;  $\epsilon_r = 54.369$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.737 W/kg

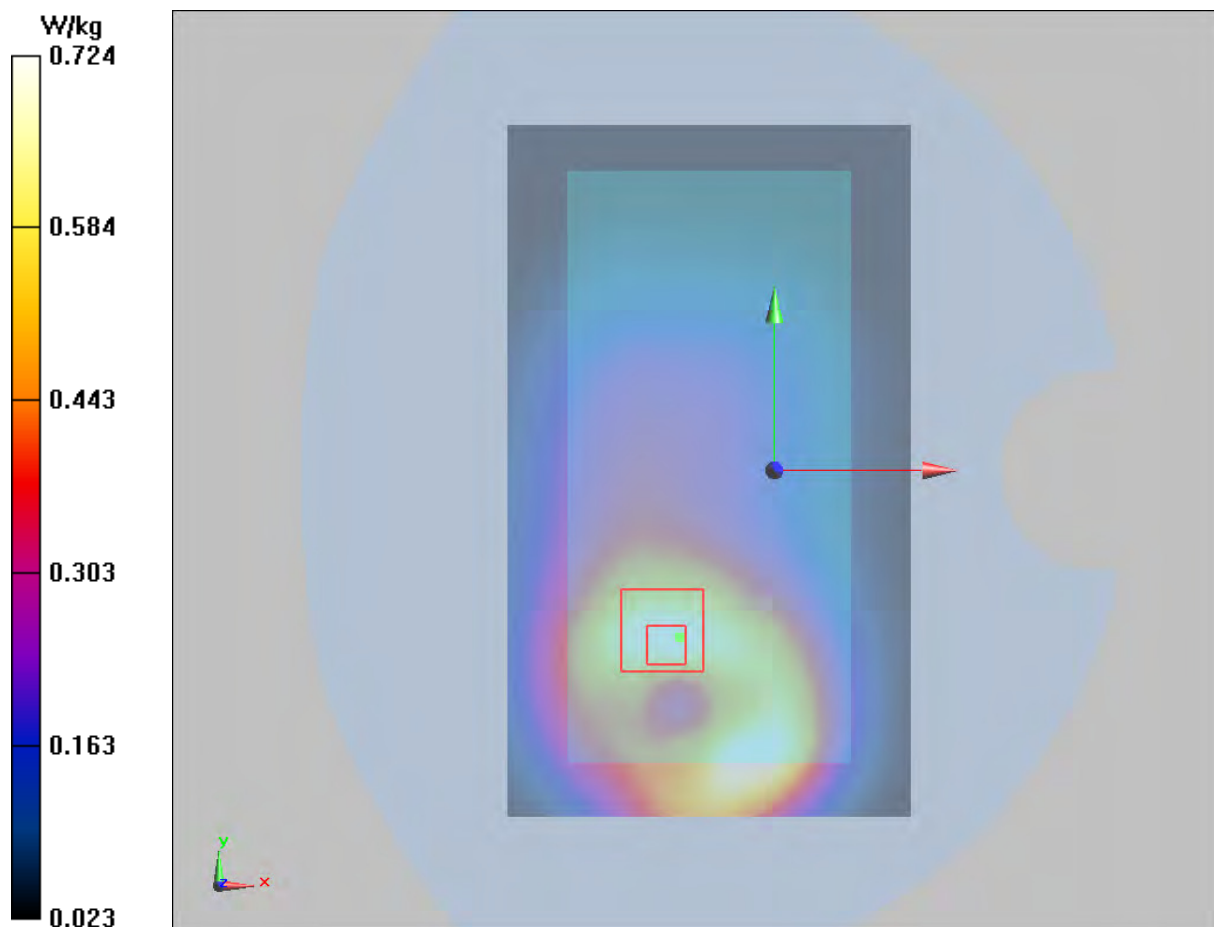
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 16.56 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.996 W/kg

**SAR(1 g) = 0.685 W/kg; SAR(10 g) = 0.462 W/kg**

Maximum value of SAR (measured) = 0.724 W/kg



# Plot 37 GSM 1900 Right Cheek Middle (Hotspot Off)

Date: 9/20/2017

Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.37$  S/m;  $\epsilon_r = 40.575$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.1470 W/kg

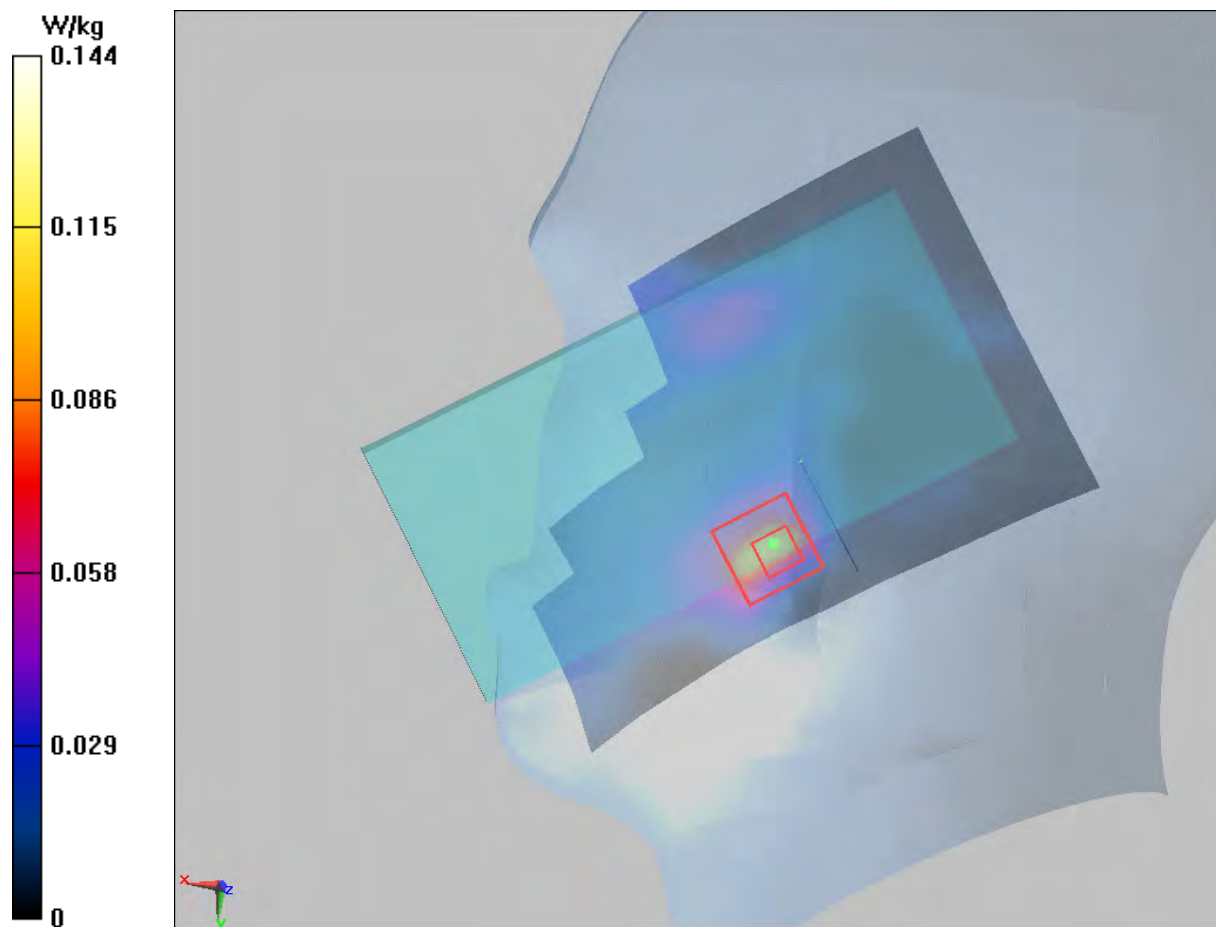
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0.4750 V/m; Power Drift = 0.171 dB

Peak SAR (extrapolated) = 0.1610 W/kg

**SAR(1 g) = 0.141 W/kg; SAR(10 g) = 0.075 W/kg**

Maximum value of SAR (measured) = 0.144 W/kg



# **Plot 38 GSM 1900 Back Side Middle (Hotspot Off, Distance 15mm)**

Date: 9/21/2017

Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.245 W/kg

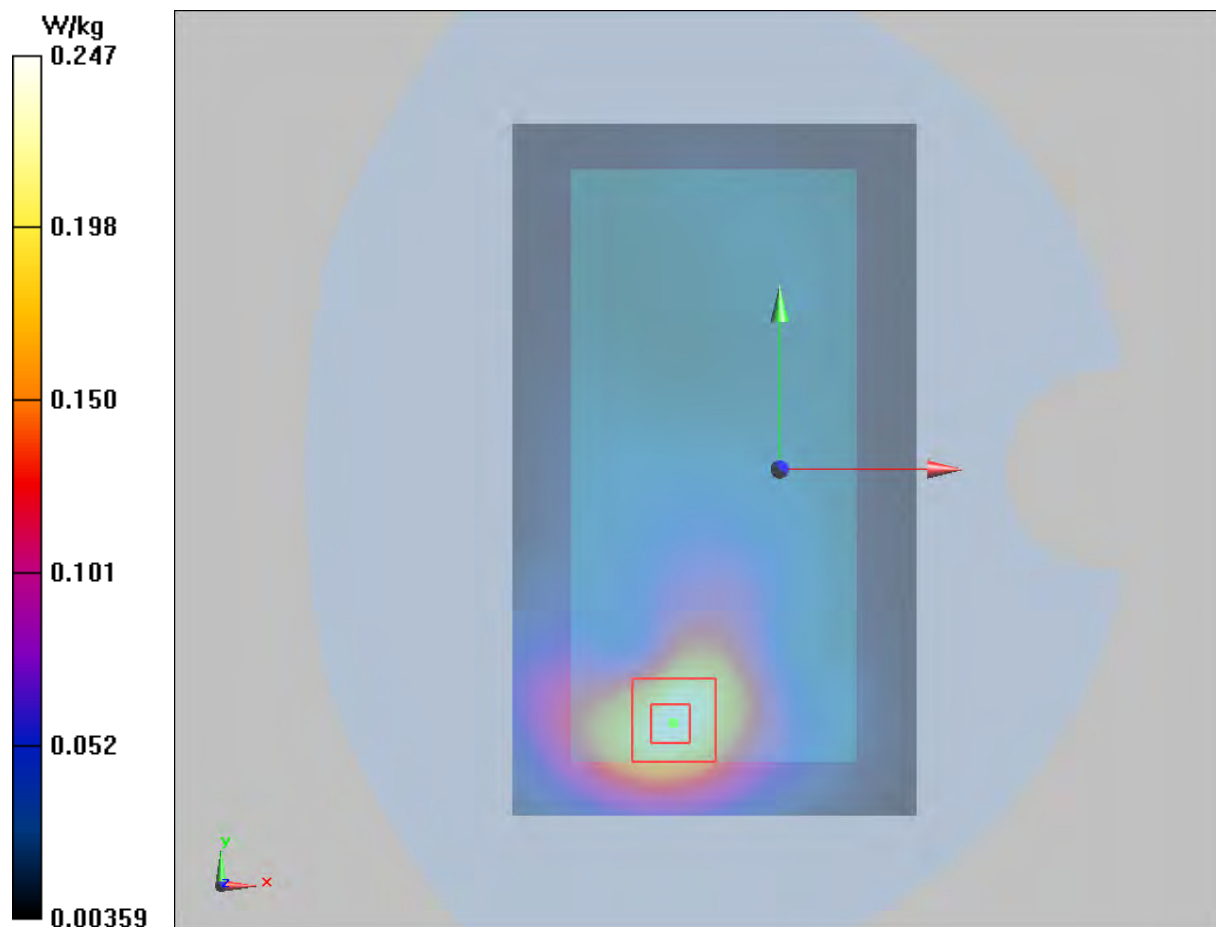
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.589 V/m; Power Drift = -0.031 dB

Peak SAR (extrapolated) = 0.354 W/kg

**SAR(1 g) = 0.225 W/kg; SAR(10 g) = 0.133 W/kg**

Maximum value of SAR (measured) = 0.247 W/kg





# **Plot 39 GSM 1900 GPRS (2Txslots) Bottom Edge Middle (Hotspot On, Distance 10mm)**

Date: 9/21/2017

Communication System: UID 0, GPRS 2TX (0); Frequency: 1880 MHz; Duty Cycle: 1:4.14954

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.546 W/kg

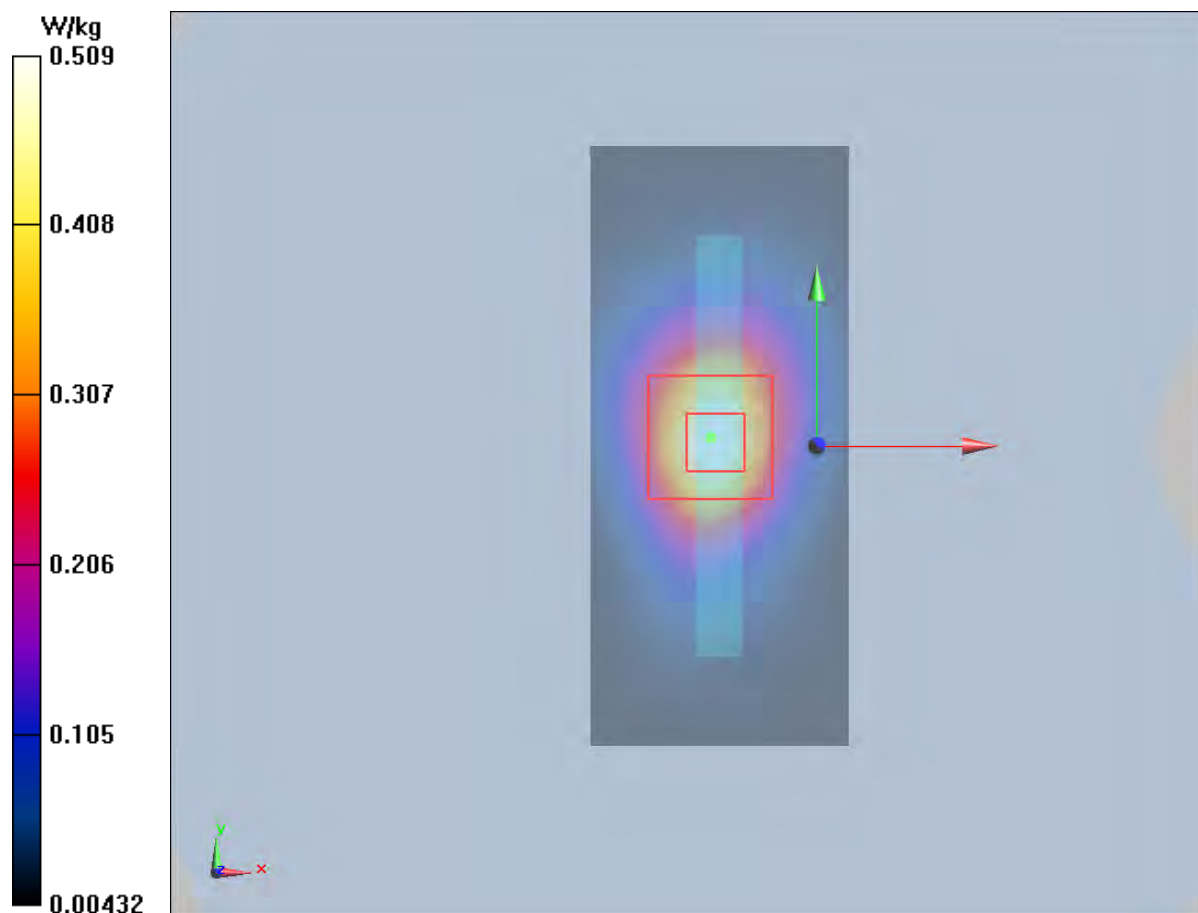
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.67 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 0.796 W/kg

**SAR(1 g) = 0.453 W/kg; SAR(10 g) = 0.235 W/kg**

Maximum value of SAR (measured) = 0.509 W/kg



# **Plot 40 GSM 1900 GPRS (2Txslots) Bottom Edge Middle (Hotspot Off, Distance 0mm)**

Date: 9/21/2017

Communication System: UID 0, 2 slot GPRS (0); Frequency: 1880 MHz; Duty Cycle: 1:4.14954

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 3.91 W/kg

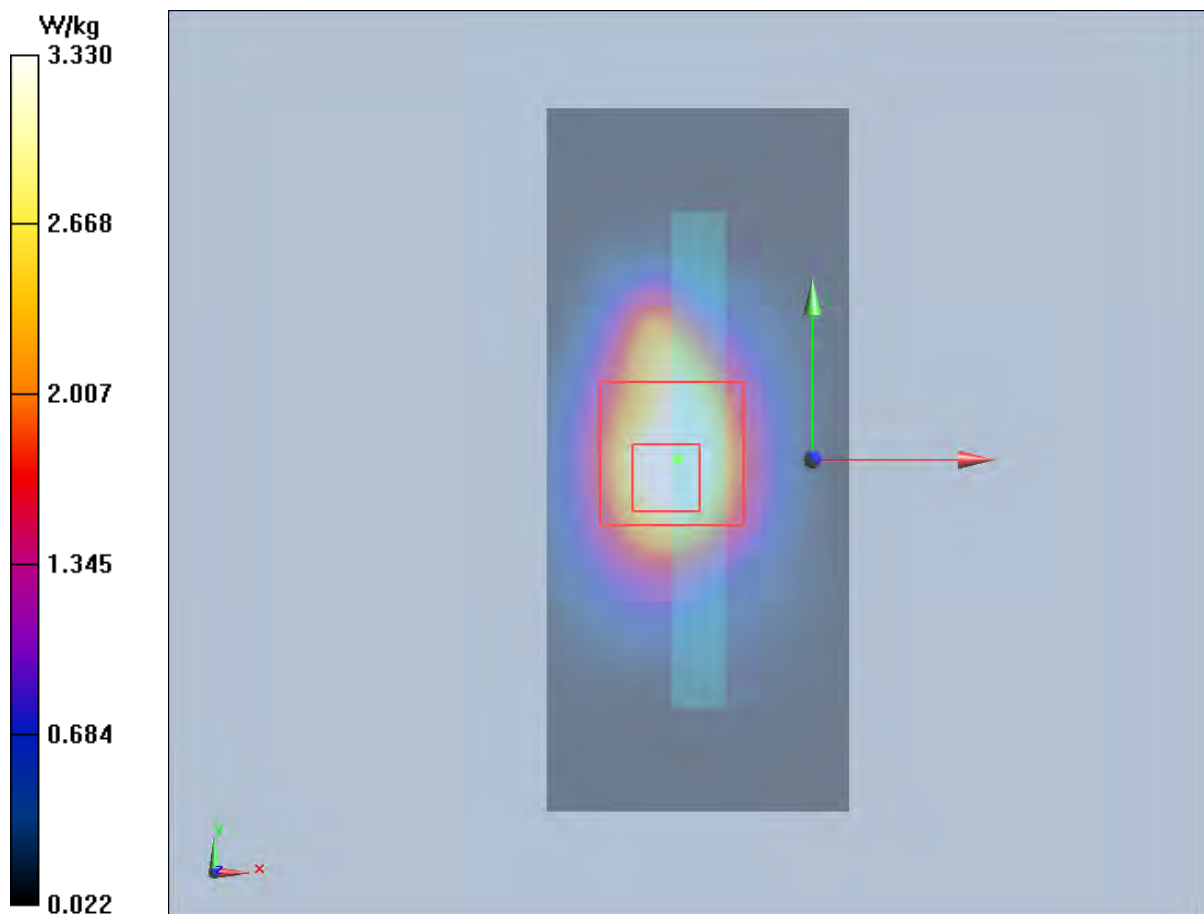
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 42.92 V/m; Power Drift = 0.037 dB

Peak SAR (extrapolated) = 5.71 W/kg

**SAR(1 g) = 2.47 W/kg; SAR(10 g) = 1.15 W/kg**

Maximum value of SAR (measured) = 3.33 W/kg





# Plot 41 UMTS Band II Right Cheek Middle (Hotspot Off)

Date: 9/20/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.37$  S/m;  $\epsilon_r = 40.575$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.197 W/kg

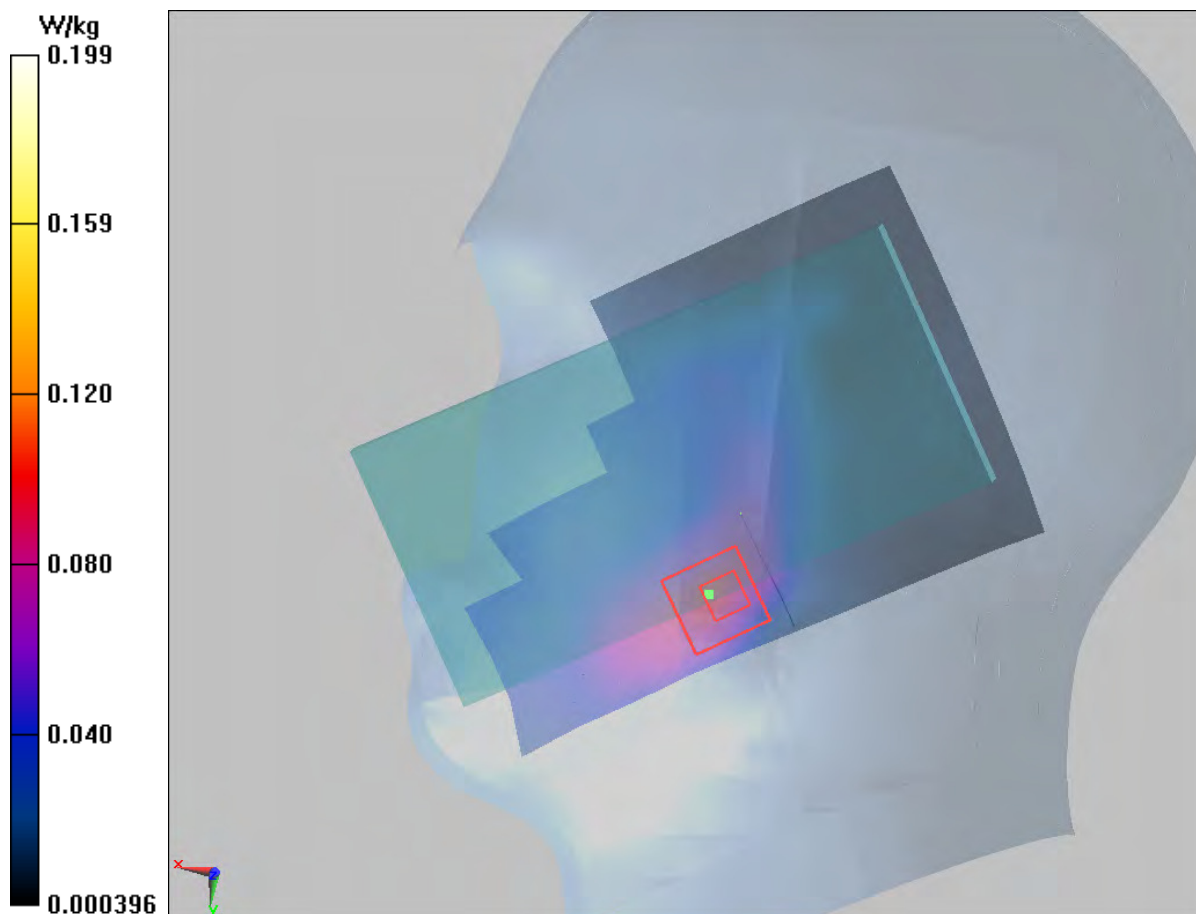
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.232 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 0.241 W/kg

**SAR(1 g) = 0.193 W/kg; SAR(10 g) = 0.098 W/kg**

Maximum value of SAR (measured) = 0.199 W/kg



# Plot 42 UMTS Band II Front Side Middle (Hotspot Off, Distance 15mm)

Date: 9/21/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.445 W/kg

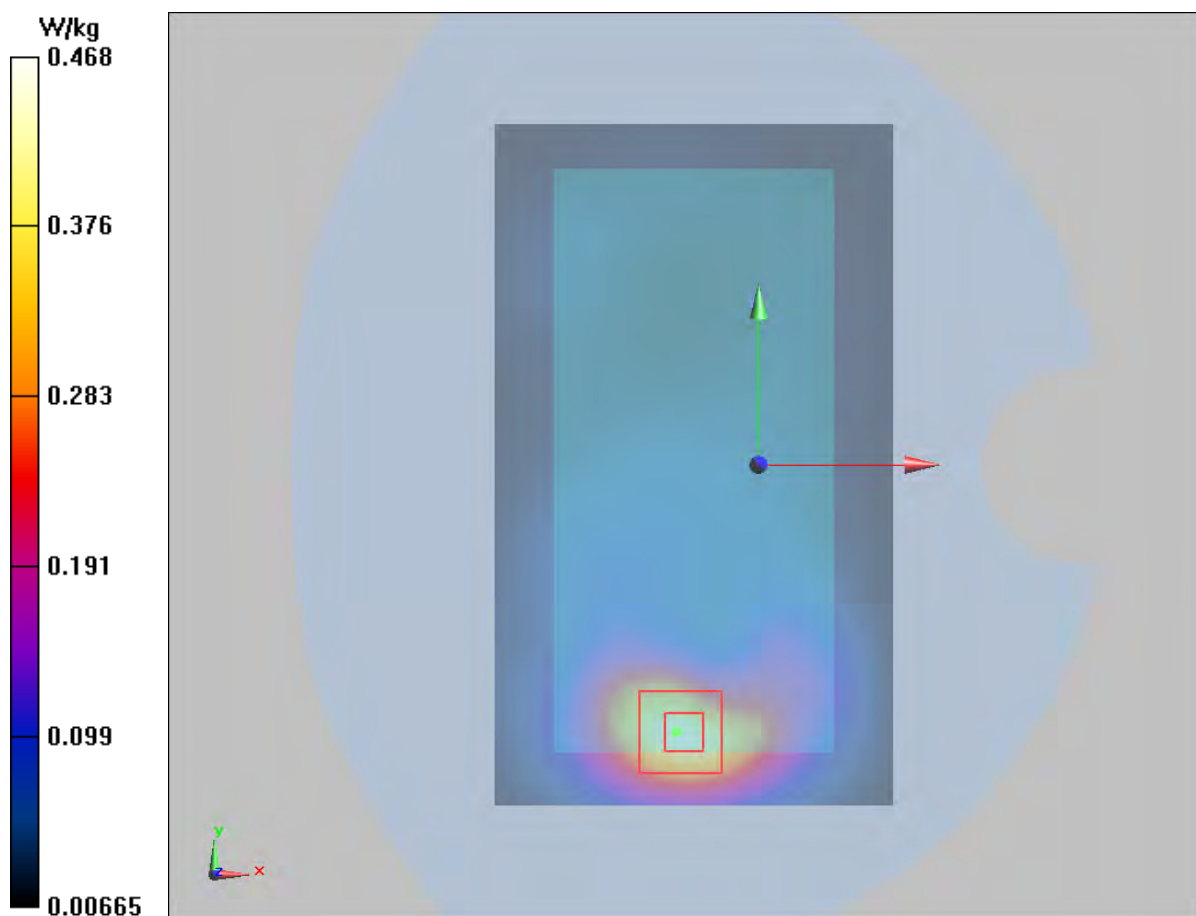
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.483 V/m; Power Drift = -0.074 dB

Peak SAR (extrapolated) = 0.690 W/kg

**SAR(1 g) = 0.422 W/kg; SAR(10 g) = 0.241 W/kg**

Maximum value of SAR (measured) = 0.468 W/kg



# Plot 43 UMTS Band II Bottom Edge Low (Hotspot On, Distance 10mm)

Date: 9/21/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1852.4 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 1852.4$  MHz;  $\sigma = 1.462$  S/m;  $\epsilon_r = 51.27$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Low/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.19 W/kg

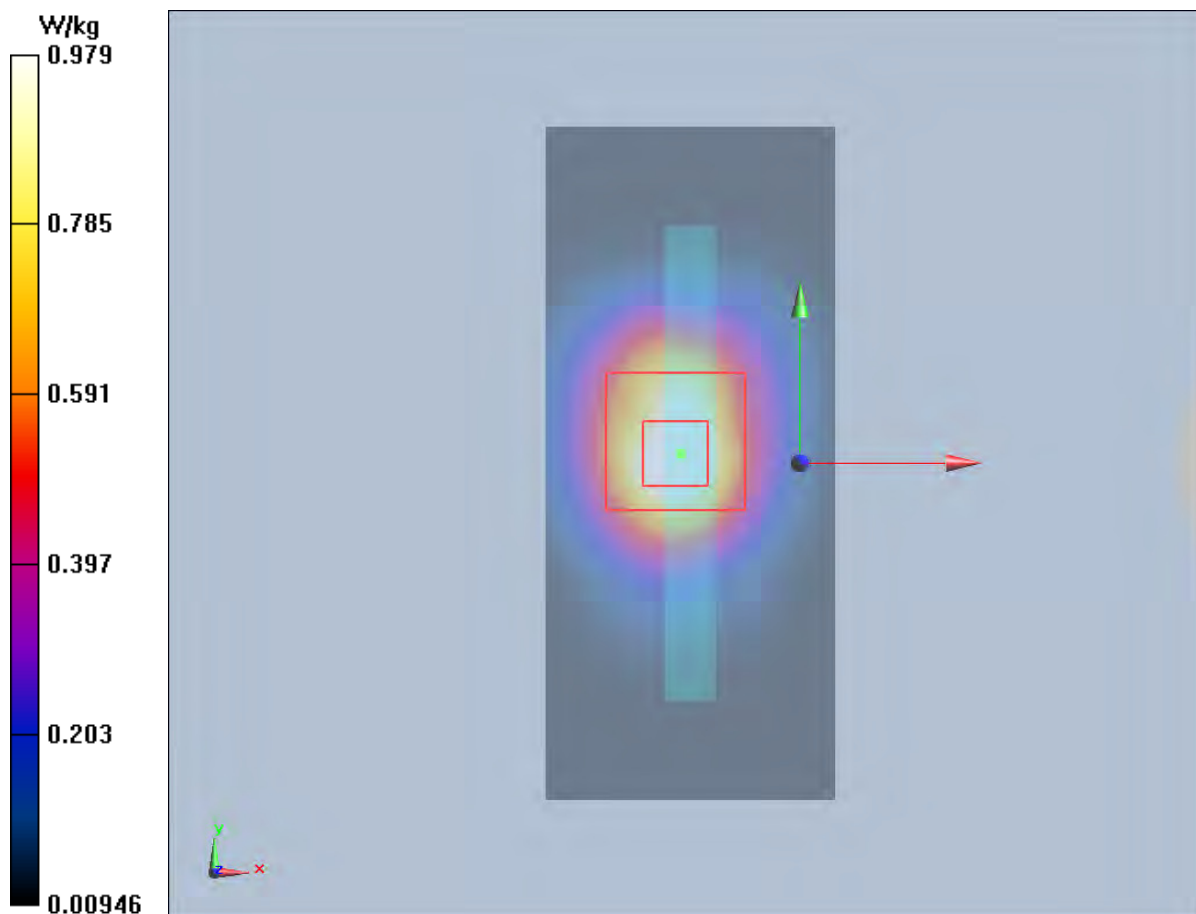
**Bottom Edge Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 25.62 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.49 W/kg

**SAR(1 g) = 0.875 W/kg; SAR(10 g) = 0.469 W/kg**

Maximum value of SAR (measured) = 0.979 W/kg



# Plot 44 UMTS Band II Bottom Edge Middle (Hotspot Off+Sensor Off, Distance 6mm)

Date: 9/21/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 5.76 W/kg

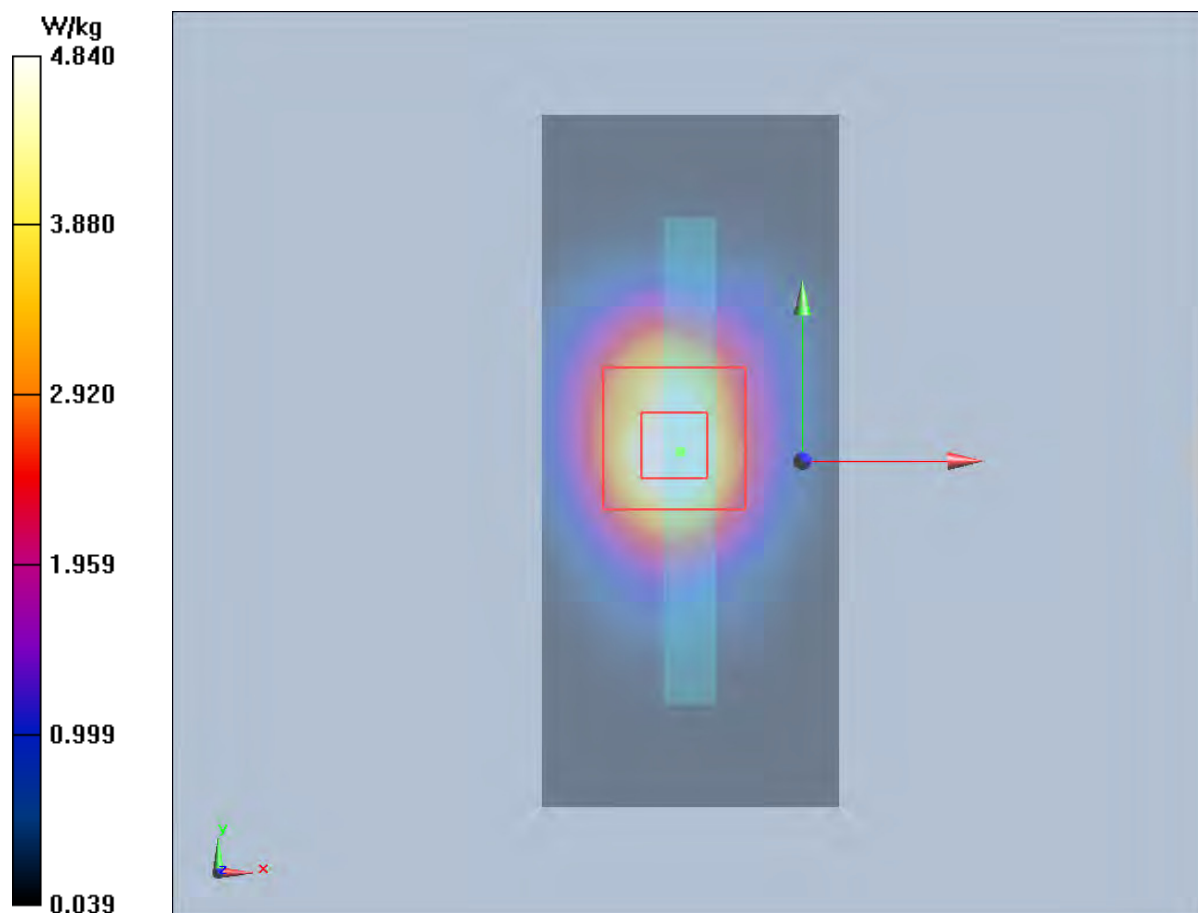
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 53.70 V/m; Power Drift = 0.17 dB

Peak SAR (extrapolated) = 7.86 W/kg

**SAR(1 g) = 4.24 W/kg; SAR(10 g) = 2.13 W/kg**

Maximum value of SAR (measured) = 4.84 W/kg



# Plot 45 UMTS Band IV Left Cheek Middle (REC On+Hotspot Off, Battery 3)

Date: 9/11/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.351$  S/m;  $\epsilon_r = 38.755$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.60, 8.60, 8.60); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.315 W/kg

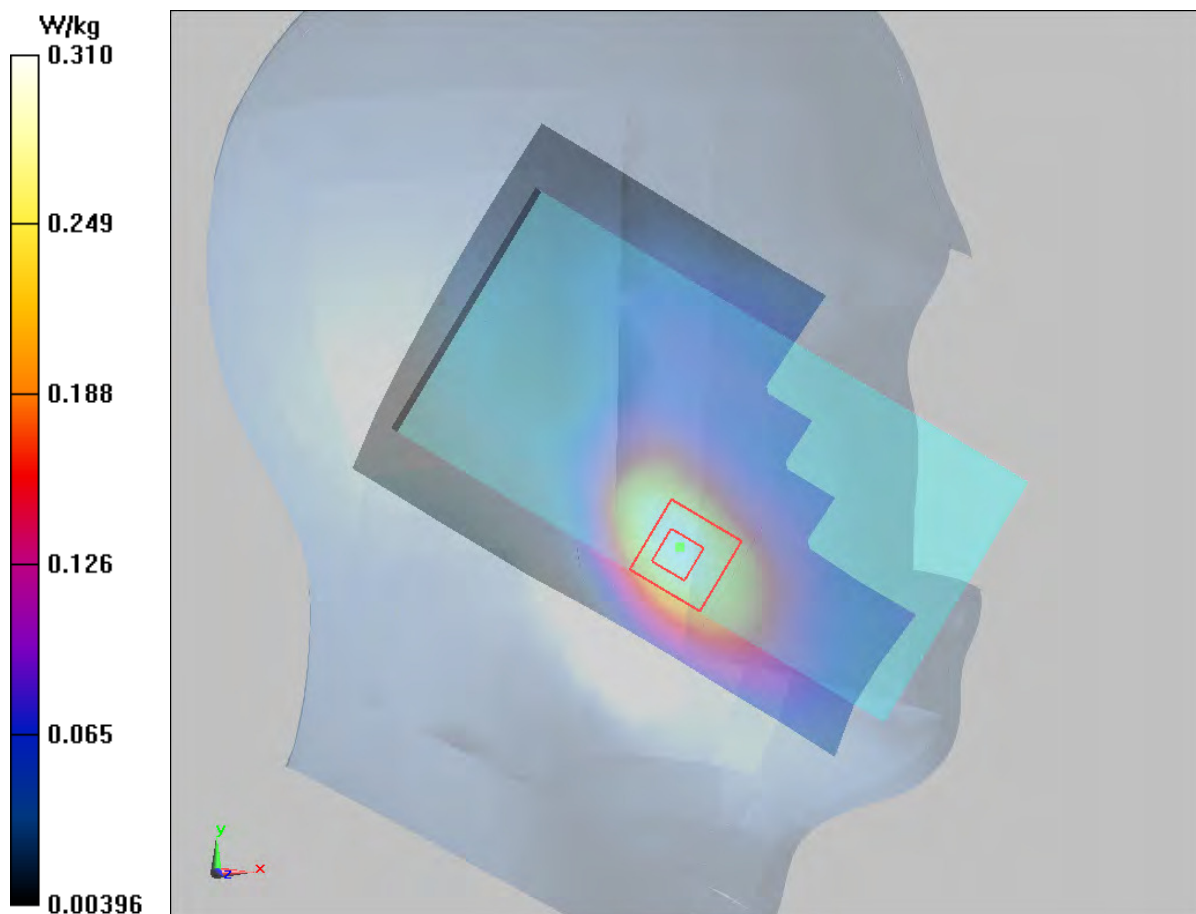
**Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.417 V/m; Power Drift = 0.039 dB

Peak SAR (extrapolated) = 0.440 W/kg

**SAR(1 g) = 0.291 W/kg; SAR(10 g) = 0.180 W/kg**

Maximum value of SAR (measured) = 0.310 W/kg



# **Plot 46 UMTS Band IV Front Side Middle (REC Off+Hotspot Off, Distance 15mm)**

Date: 9/15/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.418$  S/m;  $\epsilon_r = 51.915$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.893 W/kg

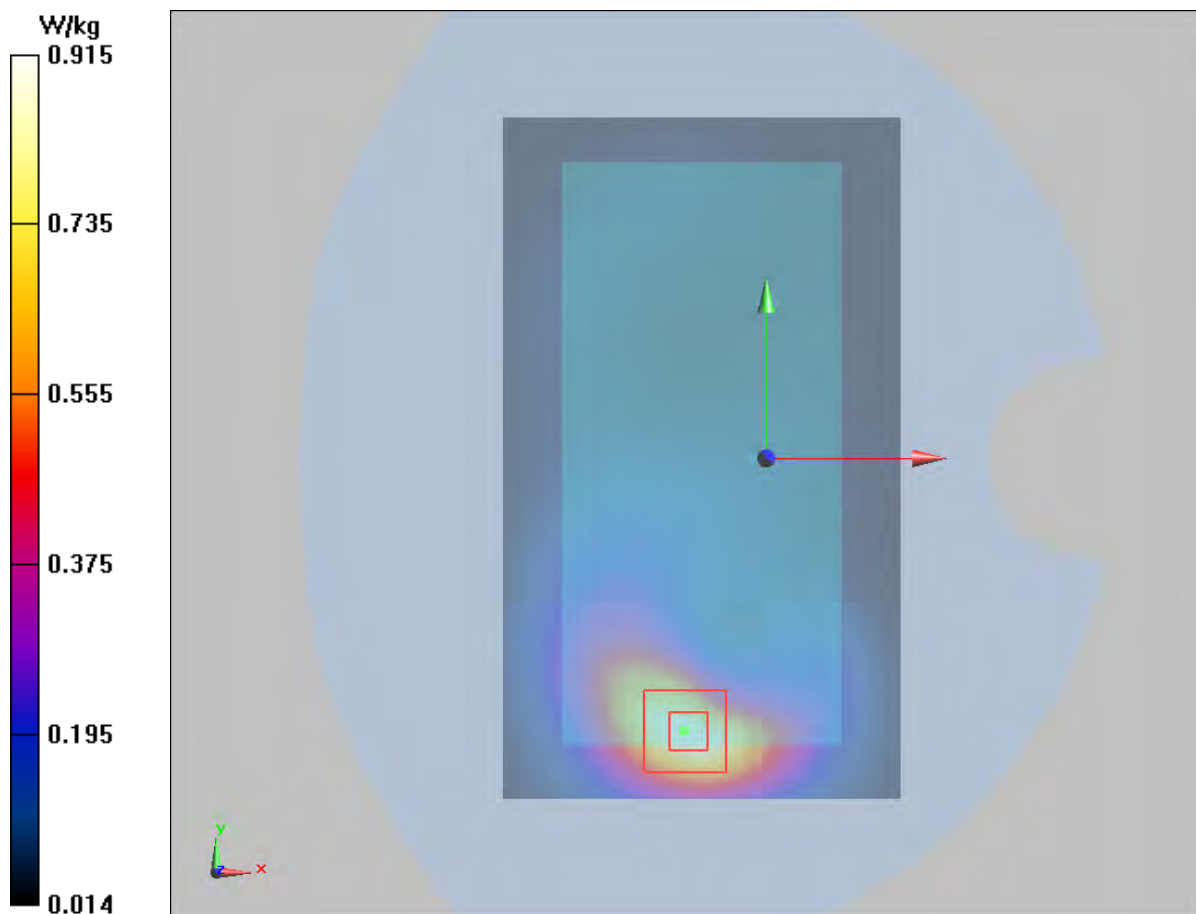
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.253 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 1.31 W/kg

**SAR(1 g) = 0.726 W/kg; SAR(10 g) = 0.486 W/kg**

Maximum value of SAR (measured) = 0.915 W/kg





# Plot 47 UMTS Band IV Bottom Edge Middle (Hotspot On, Distance 10mm)

Date: 9/15/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.418$  S/m;  $\epsilon_r = 51.915$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.795 W/kg

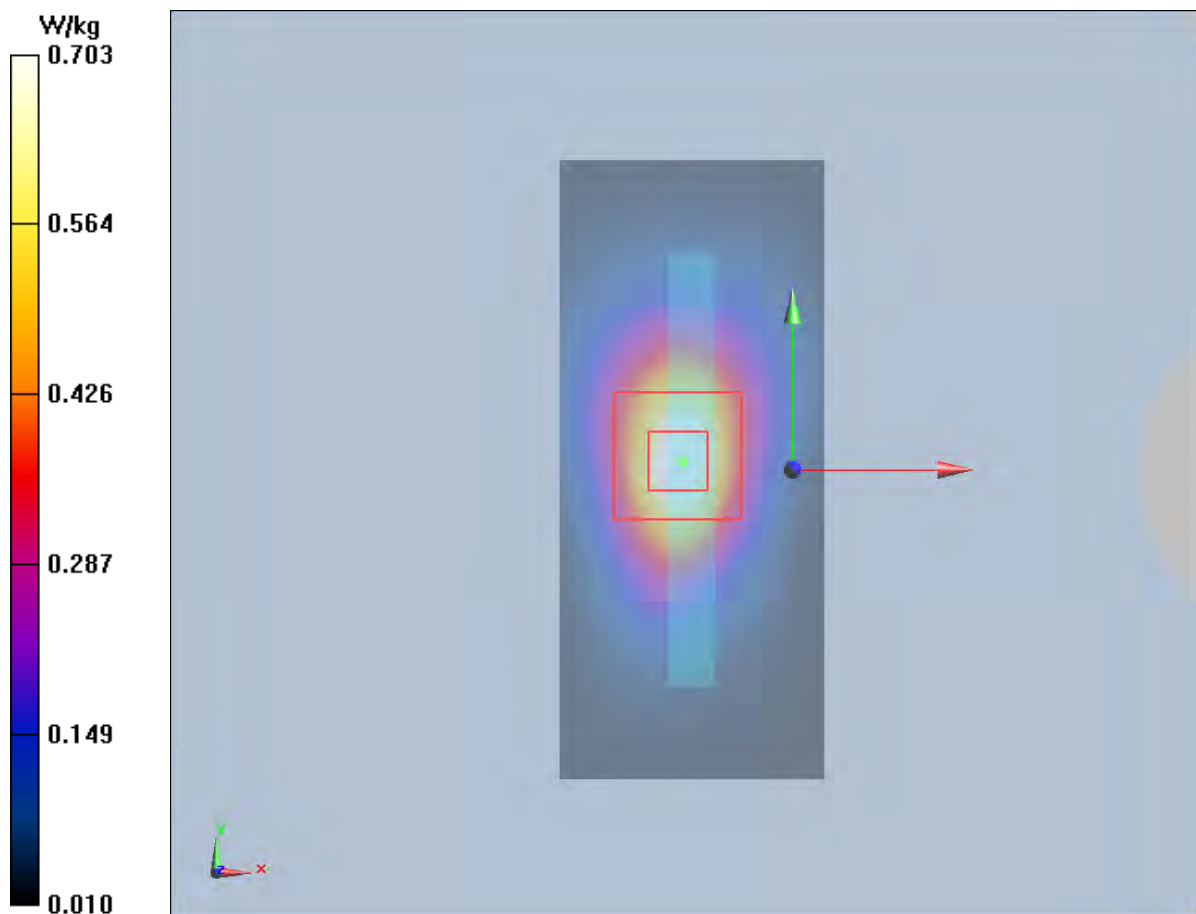
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 22.24 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 1.06 W/kg

**SAR(1 g) = 0.625 W/kg; SAR(10 g) = 0.333 W/kg**

Maximum value of SAR (measured) = 0.703 W/kg



# **Plot 48 UMTS Band IV Bottom Edge Middle (Hotspot Off+Sensor Off, Distance 6mm)**

Date: 9/15/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.418$  S/m;  $\epsilon_r = 51.915$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 6.57 W/kg

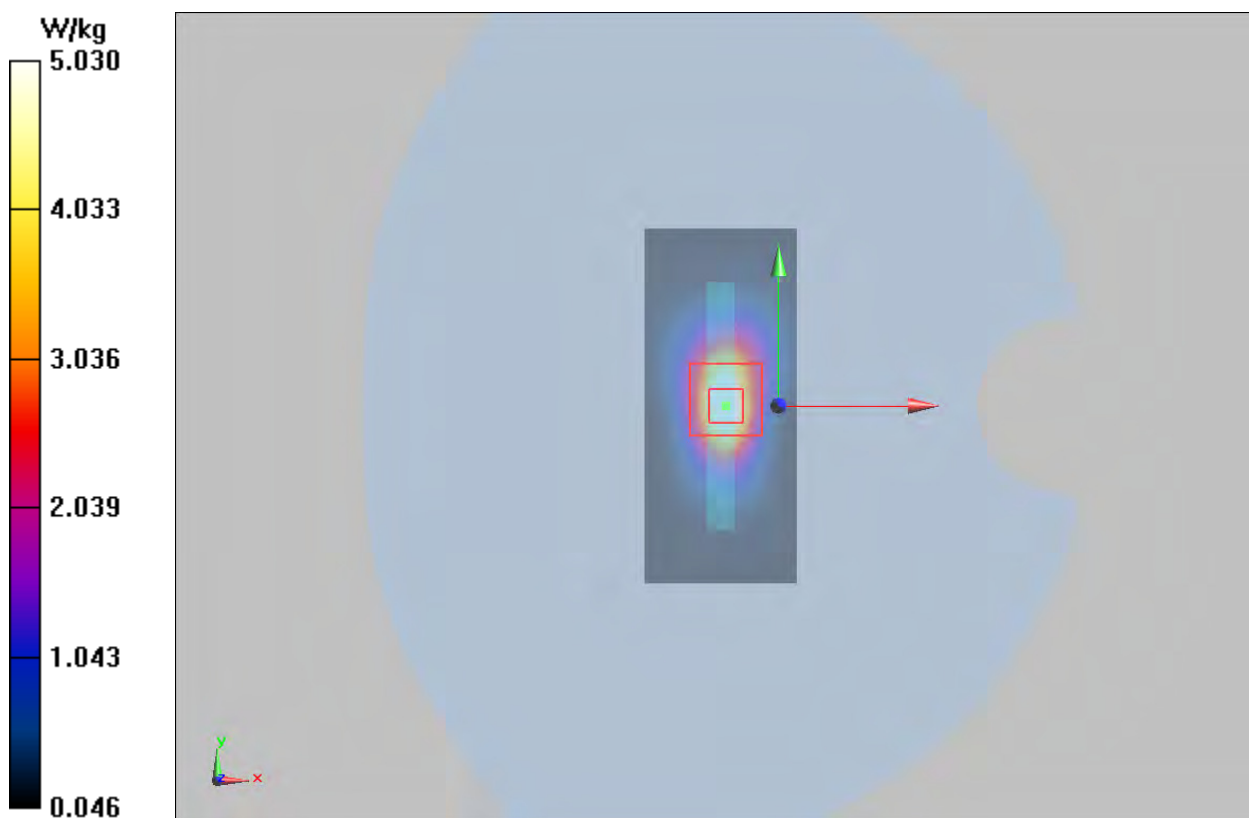
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 59.19 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 8.20 W/kg

**SAR(1 g) = 4.57 W/kg; SAR(10 g) = 2.24 W/kg**

Maximum value of SAR (measured) = 5.13 W/kg





## Plot 49 UMTS Band V Right Cheek Middle

Date: 9/12/2017

Communication System: UID 0, WCDMA V (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.934$  S/m;  $\epsilon_r = 41.065$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.267 W/kg

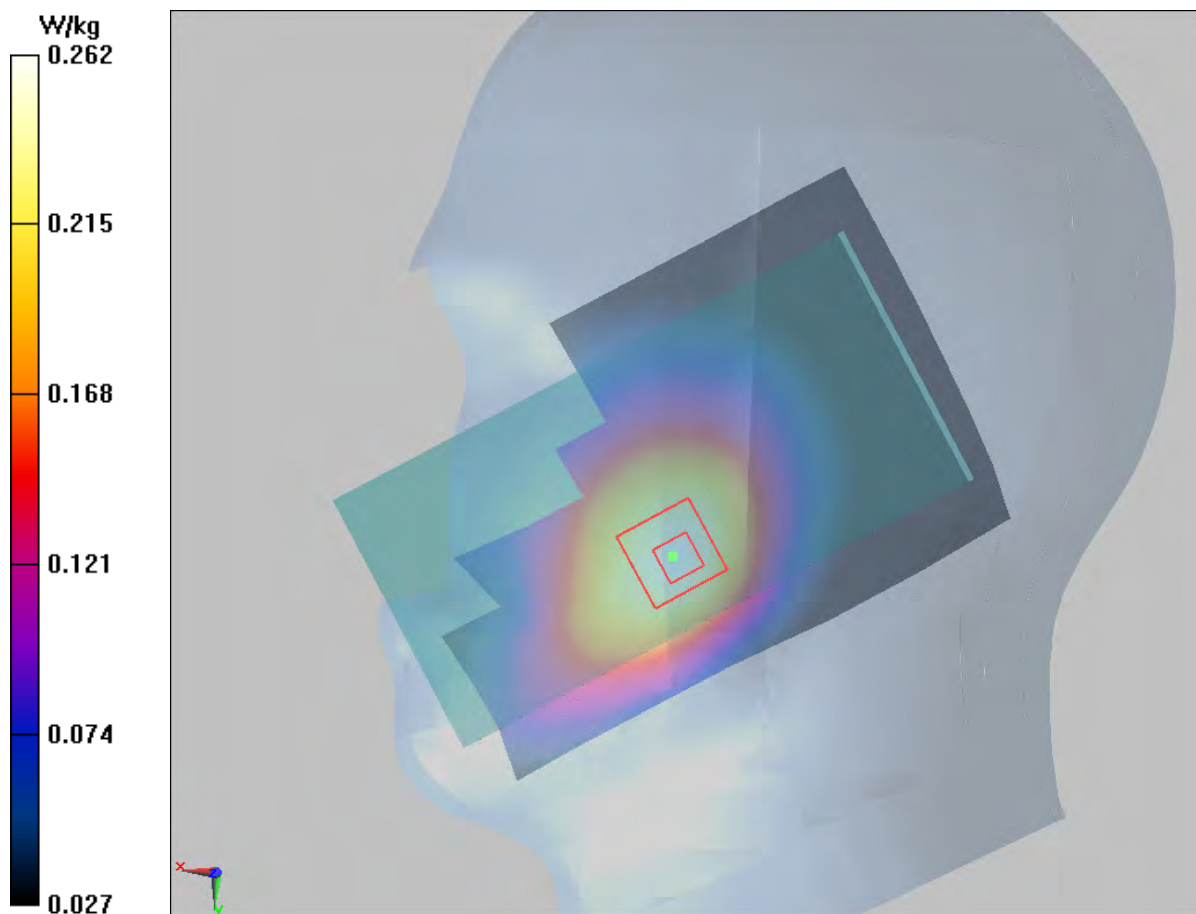
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.668 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.316 W/kg

**SAR(1 g) = 0.250 W/kg; SAR(10 g) = 0.190 W/kg**

Maximum value of SAR (measured) = 0.262 W/kg



## Plot 50 UMTS Band V Front Side Middle (Distance 15mm)

Date: 9/13/2017

Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 55.395$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.297 W/kg

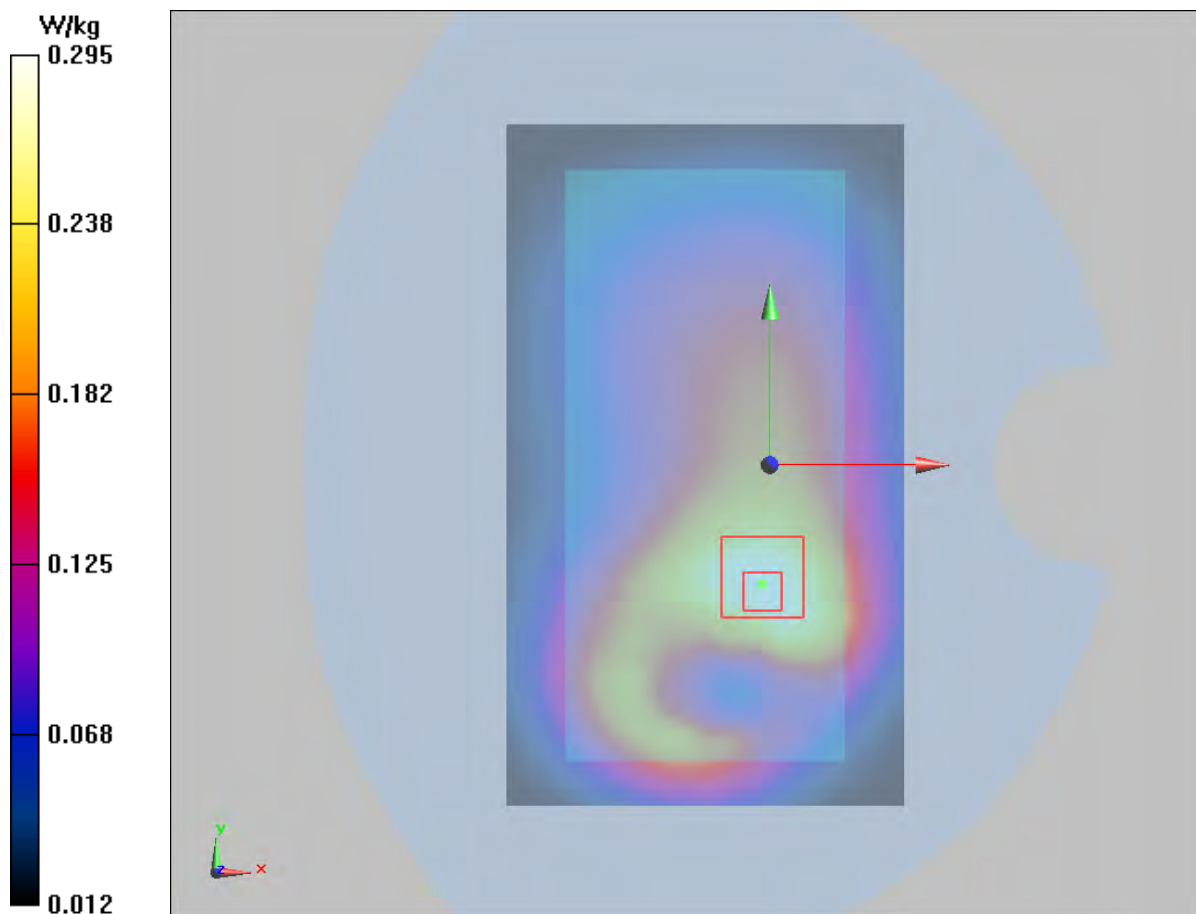
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.74 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.369 W/kg

**SAR(1 g) = 0.278 W/kg; SAR(10 g) = 0.197 W/kg**

Maximum value of SAR (measured) = 0.295 W/kg



# Plot 51 UMTS Band V Back Side Middle (Distance 10mm)

Date: 9/13/2017

Communication System: UID 0, WCDMA V (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.001$  S/m;  $\epsilon_r = 54.375$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.431 W/kg

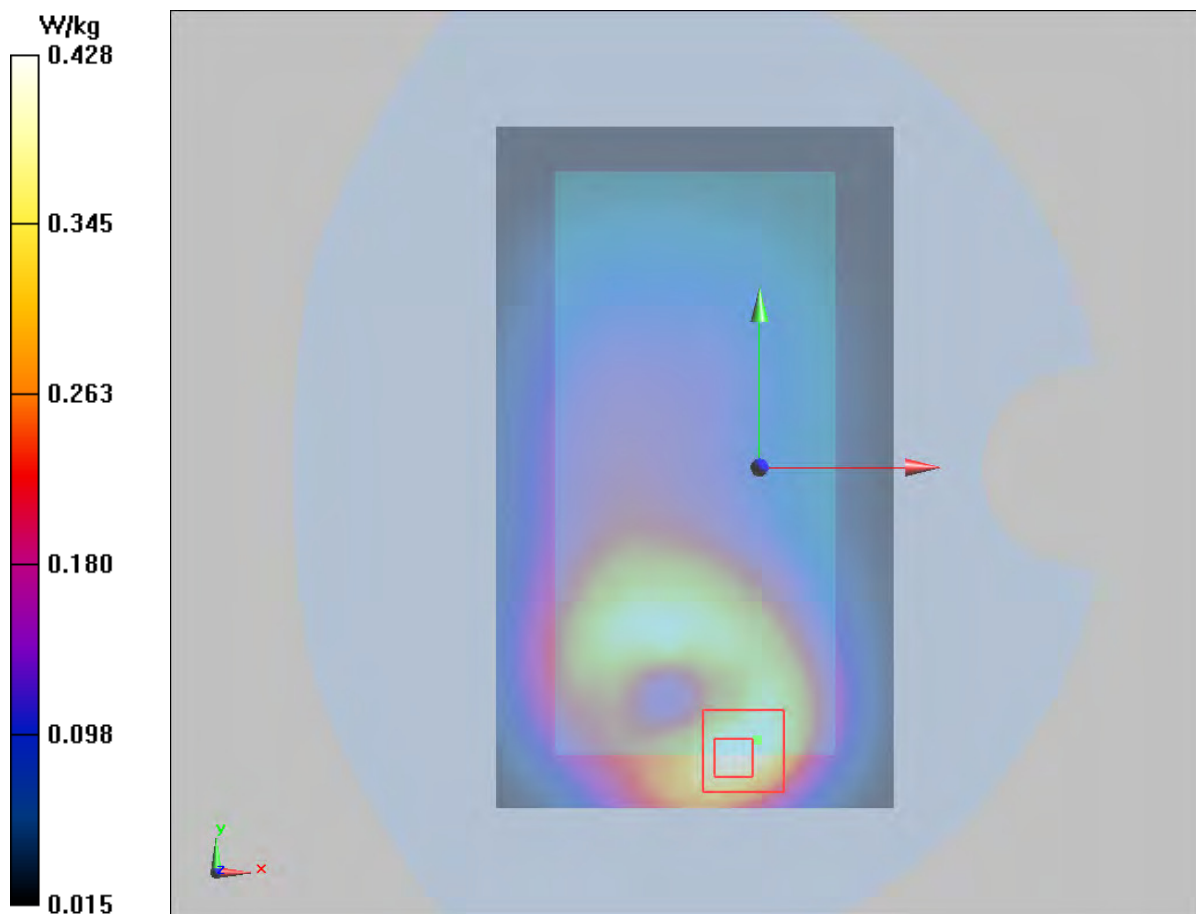
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.81 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.644 W/kg

**SAR(1 g) = 0.399 W/kg; SAR(10 g) = 0.239 W/kg**

Maximum value of SAR (measured) = 0.428 W/kg



## Plot 52 LTE Band 2 1RB Right Cheek Middle (Hotspot Off, Battery 2)

Date: 9/20/2017

Communication System: UID 0, LTE (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.37$  S/m;  $\epsilon_r = 40.575$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.228 W/kg

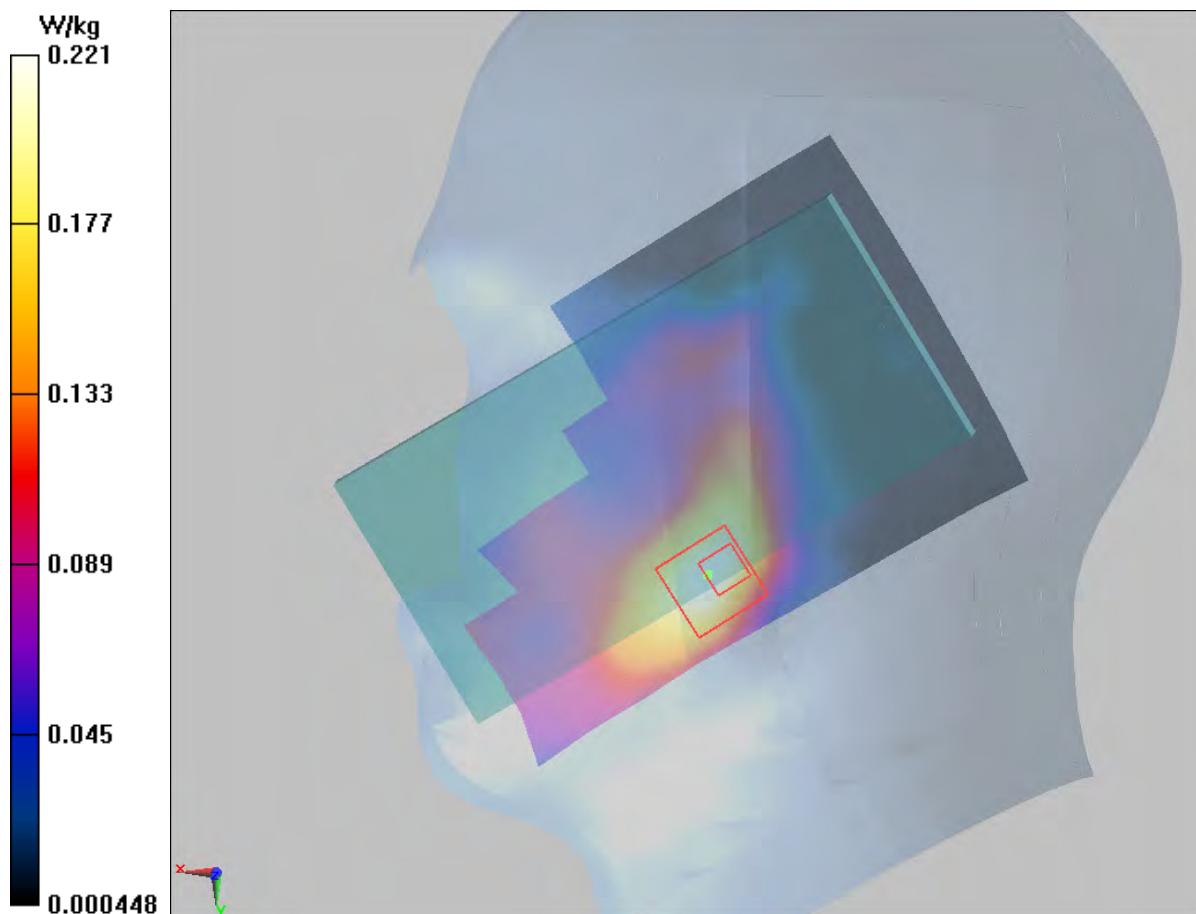
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.274 W/kg

**SAR(1 g) = 0.217 W/kg; SAR(10 g) = 0.123 W/kg**

Maximum value of SAR (measured) = 0.221 W/kg



# Plot 53 LTE Band 2 1RB Front Side Middle (Hotspot Off, Distance 15mm)

Date: 9/24/2017

Communication System: UID 0, LTE (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.559 W/kg

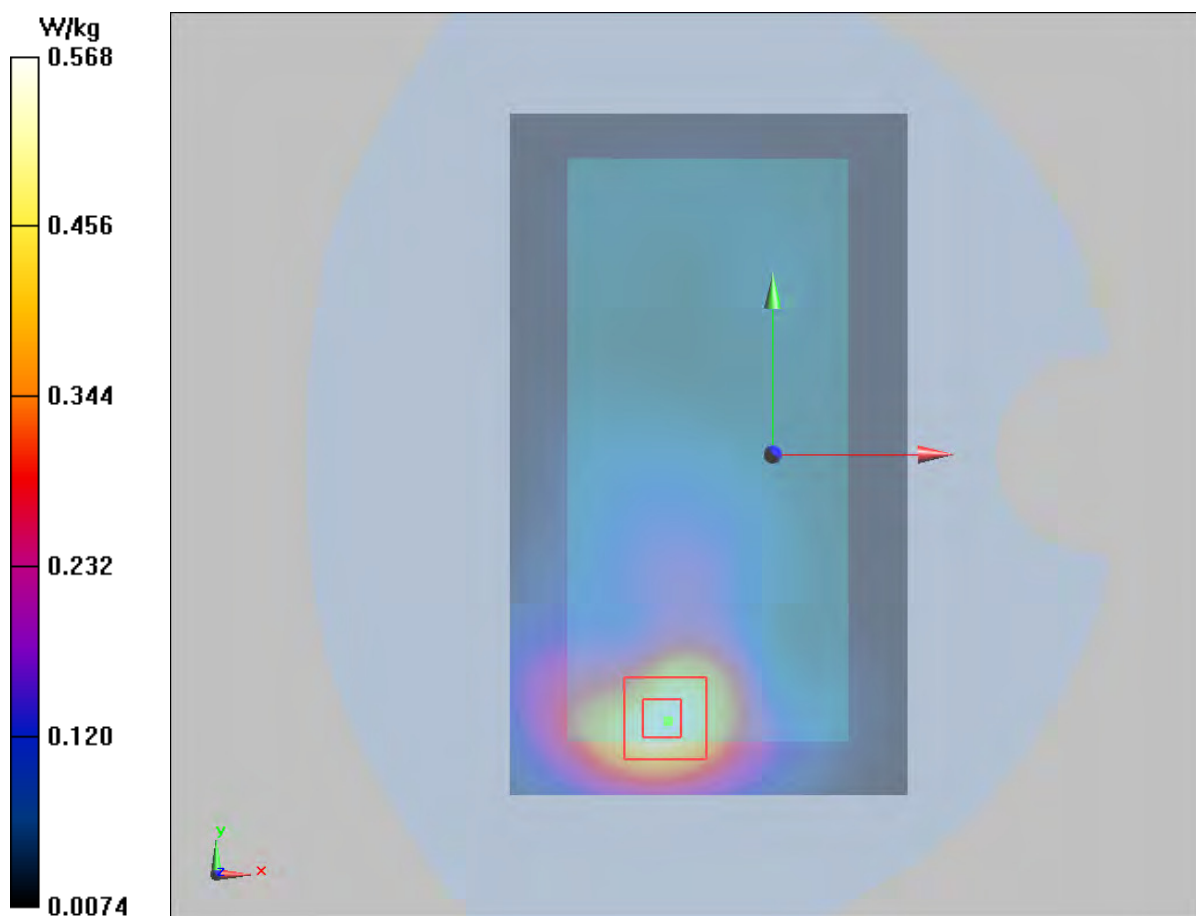
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.813 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 0.835 W/kg

**SAR(1 g) = 0.513 W/kg; SAR(10 g) = 0.295 W/kg**

Maximum value of SAR (measured) = 0.568 W/kg



# Plot 54 LTE Band 2 50%RB Bottom Edge Middle (Hotspot On, Distance 10mm)

Date: 9/24/2017

Communication System: UID 0, LTE (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.804 W/kg

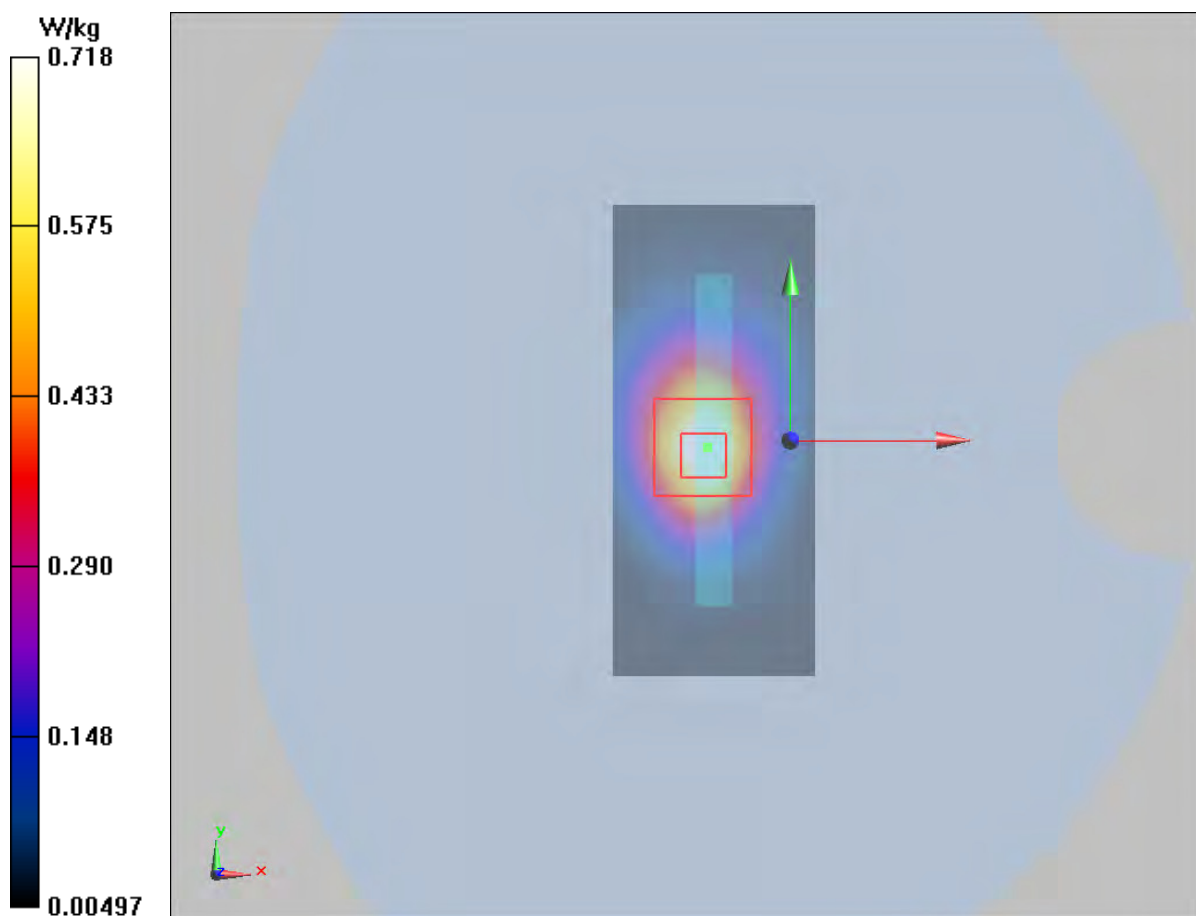
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.64 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 1.11 W/kg

**SAR(1 g) = 0.639 W/kg; SAR(10 g) = 0.339 W/kg**

Maximum value of SAR (measured) = 0.718 W/kg





## Plot 55 LTE Band 2 1RB Bottom Edge Middle (Hotspot Off+Sensor Off, Distance 6mm)

Date: 9/24/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1880 MHz;Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 5.68 W/kg

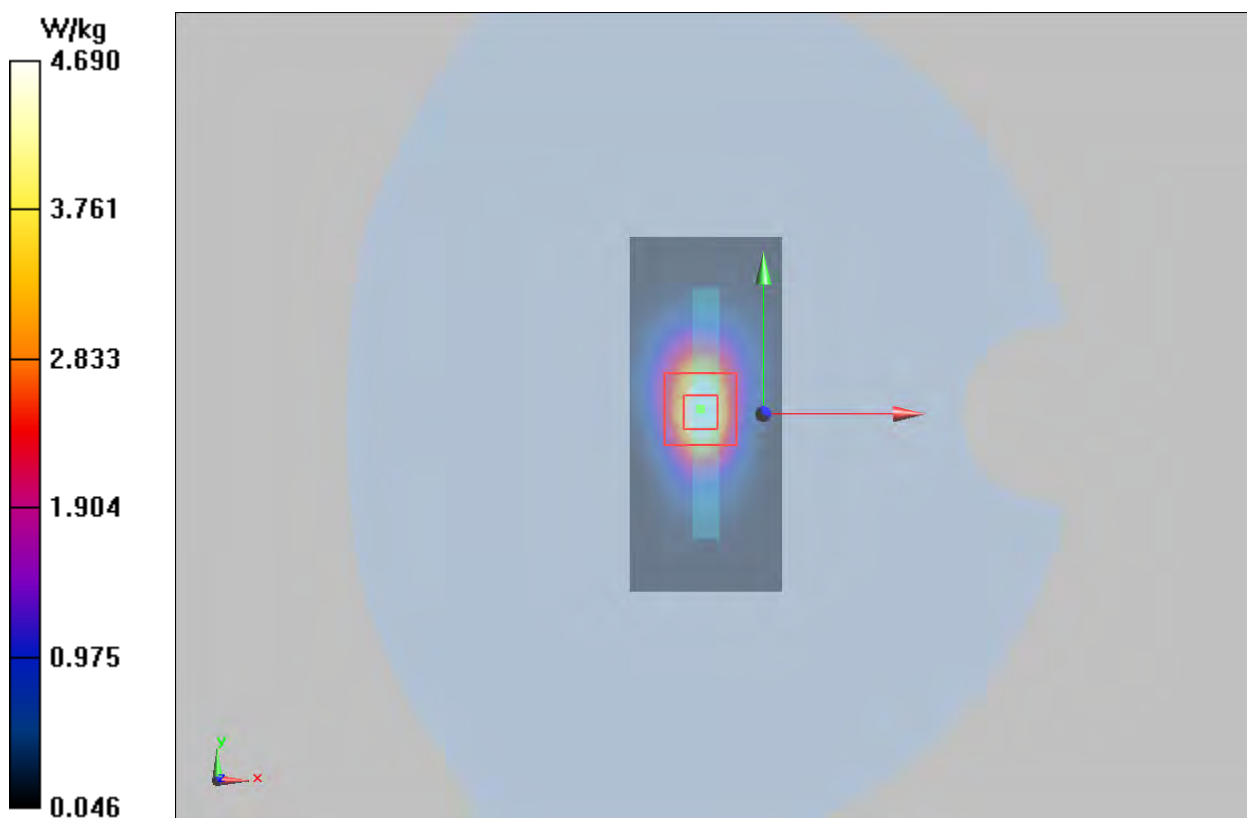
**Bottom Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 56.02 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 7.72 W/kg

**SAR(1 g) = 4.08 W/kg; SAR(10 g) = 2.19 W/kg**

Maximum value of SAR (measured) = 4.69 W/kg



## Plot 56 LTE Band 4 1RB Left Cheek Low (REC On+Hotspot Off)

Date: 9/11/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.336$  S/m;  $\epsilon_r = 38.677$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.60, 8.60, 8.60); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.296 W/kg

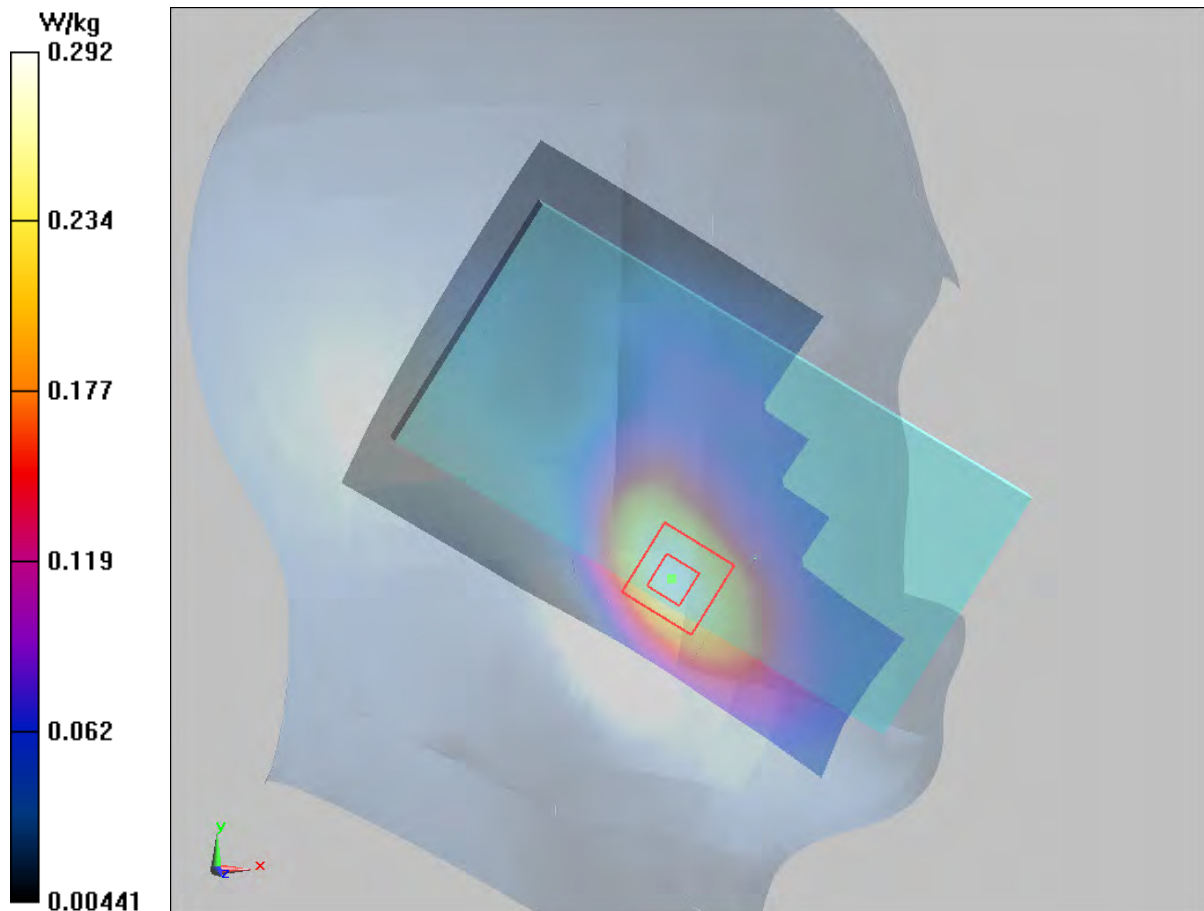
**Left Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.351 V/m; Power Drift = -0.027 dB

Peak SAR (extrapolated) = 0.387 W/kg

**SAR(1 g) = 0.268 W/kg; SAR(10 g) = 0.172 W/kg**

Maximum value of SAR (measured) = 0.292 W/kg





# **Plot 57 LTE Band 4 1RB Back Side Low (REC Off+Hotspot Off, Distance 15mm)**

Date: 9/10/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.406$  S/m;  $\epsilon_r = 51.959$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.855 W/kg

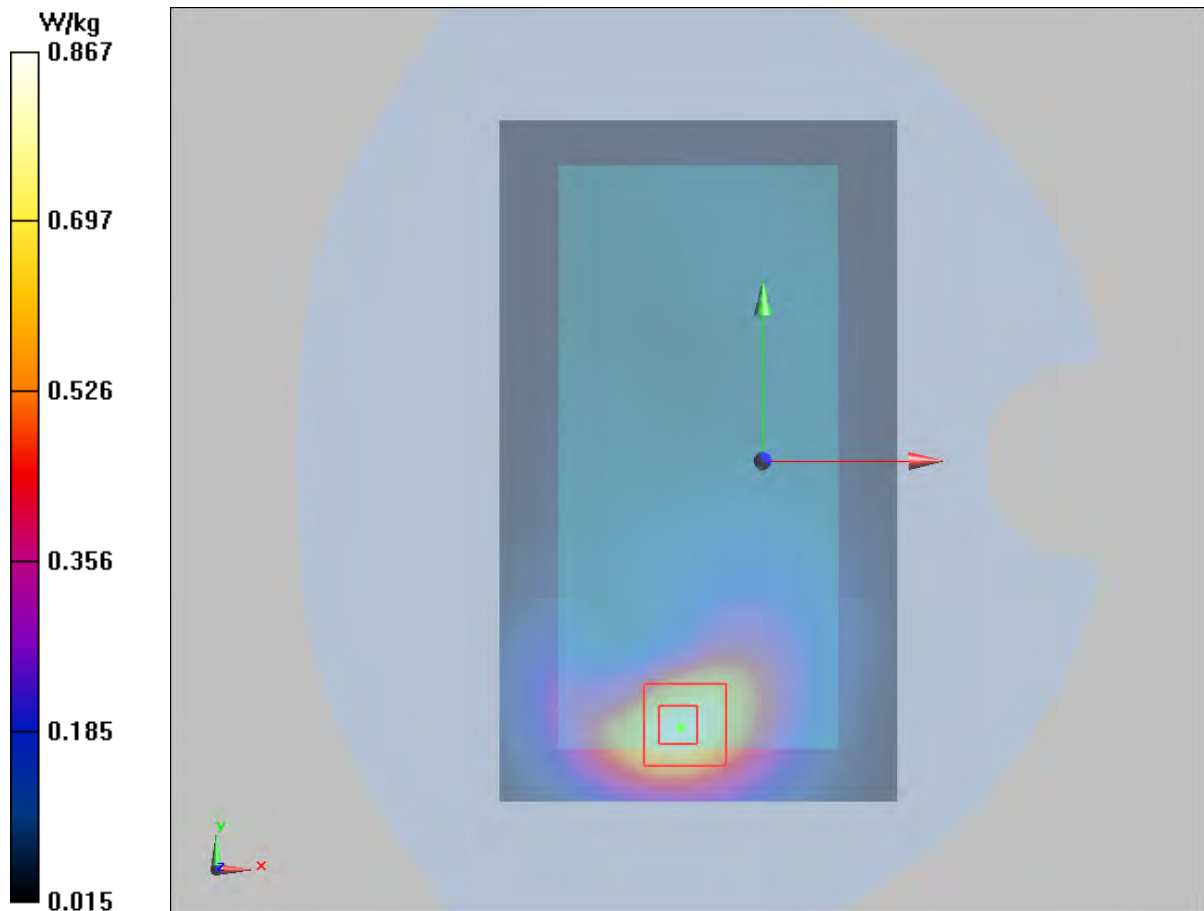
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.255 V/m; Power Drift = -0.15 dB

Peak SAR (extrapolated) = 1.24 W/kg

**SAR(1 g) = 0.789 W/kg; SAR(10 g) = 0.469 W/kg**

Maximum value of SAR (measured) = 0.867 W/kg



# Plot 58 LTE Band 4 50%RB Bottom Edge High (Distance 10mm)

Date: 9/10/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1745 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1745$  MHz;  $\sigma = 1.429$  S/m;  $\epsilon_r = 51.879$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge High/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.544 W/kg

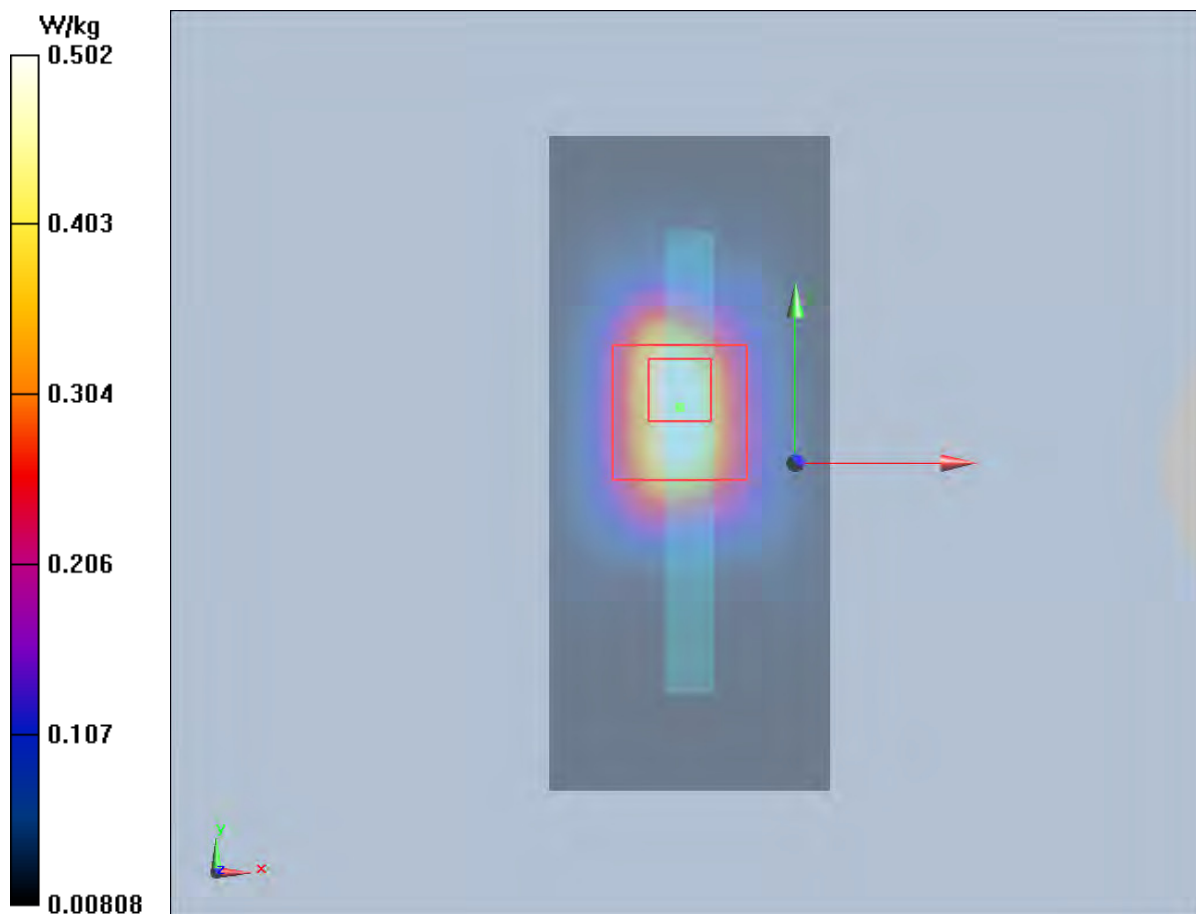
**Bottom Edge High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 15.83 V/m; Power Drift = 0.043 dB

Peak SAR (extrapolated) = 0.756 W/kg

**SAR(1 g) = 0.443 W/kg; SAR(10 g) = 0.236 W/kg**

Maximum value of SAR (measured) = 0.502 W/kg



# Plot 59 LTE Band 4 100%RB Bottom Edge Low (Hotspot Off+Sensor On, Distance 0mm)

Date: 9/10/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1720 MHz;Duty Cycle: 1:1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.406$  S/m;  $\epsilon_r = 51.959$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge Low/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 5.54 W/kg

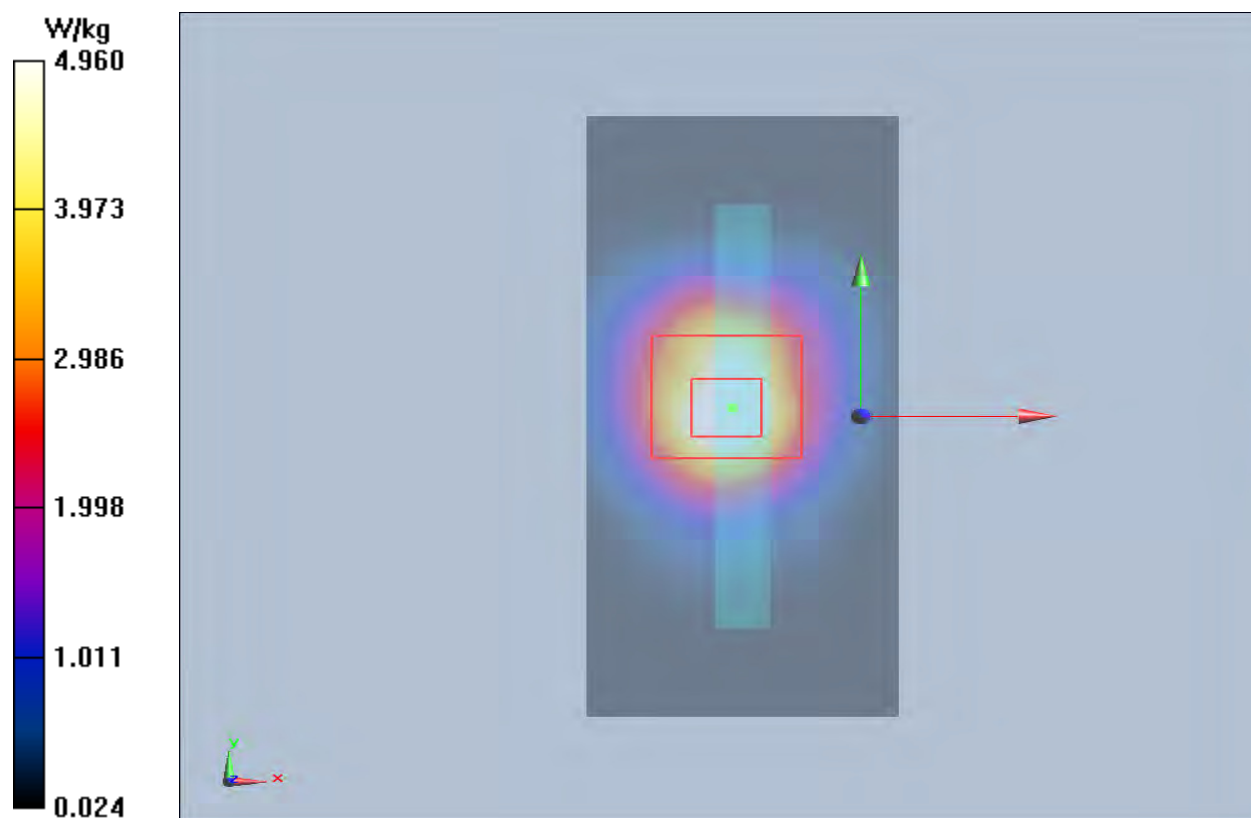
**Bottom Edge Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 46.02 V/m; Power Drift = 0.056 dB

Peak SAR (extrapolated) = 8.72 W/kg

**SAR(1 g) = 4.28 W/kg; SAR(10 g) = 2.19 W/kg**

Maximum value of SAR (measured) = 4.96 W/kg



## Plot 60 LTE Band 5 1RB Right Cheek Low

Date: 9/12/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 829 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 829$  MHz;  $\sigma = 0.932$  S/m;  $\epsilon_r = 42.527$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.238 W/kg

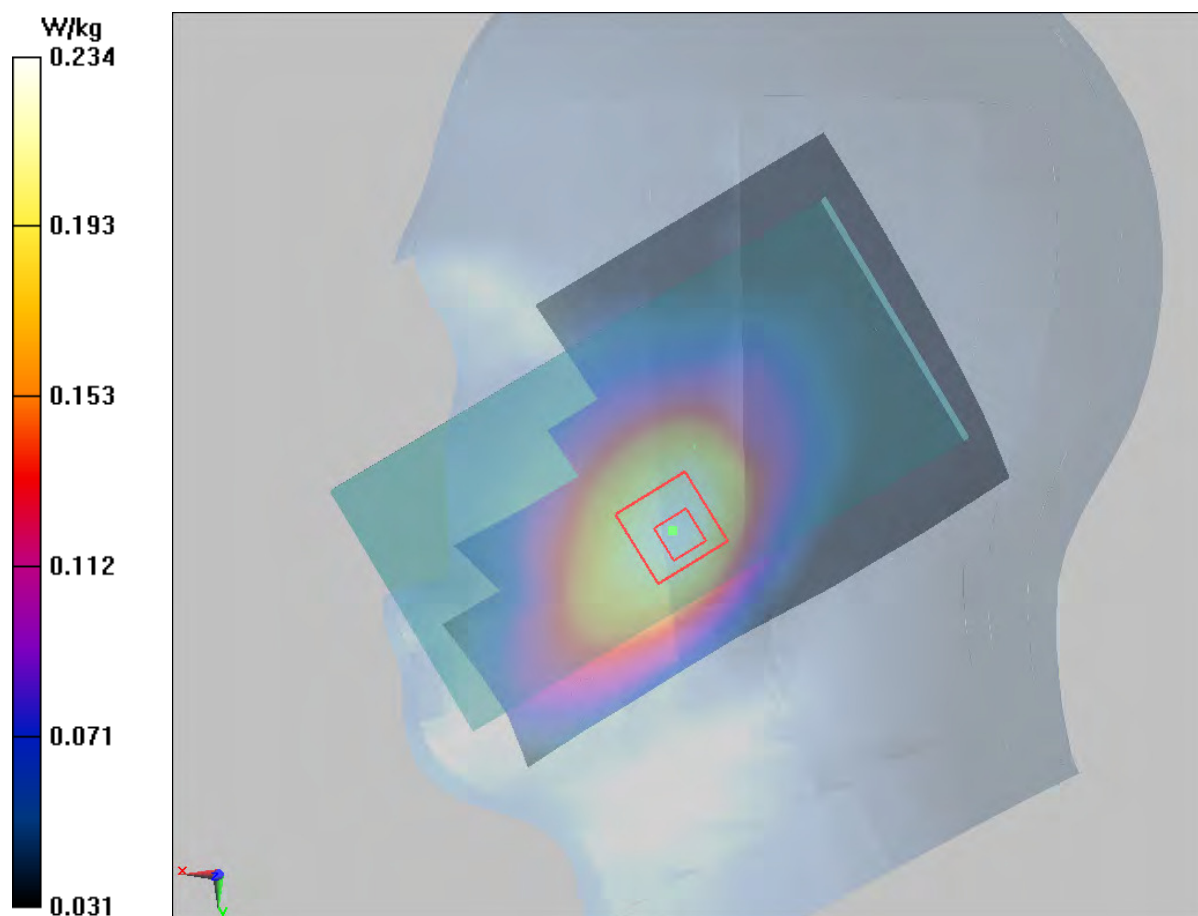
**Right Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.112 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.276 W/kg

**SAR(1 g) = 0.224 W/kg; SAR(10 g) = 0.170 W/kg**

Maximum value of SAR (measured) = 0.234 W/kg



# Plot 61 LTE Band 5 1RB Back Side Low (Distance 15mm)

Date: 9/13/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 829 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 829$  MHz;  $\sigma = 1.005$  S/m;  $\epsilon_r = 55.487$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.232 W/kg

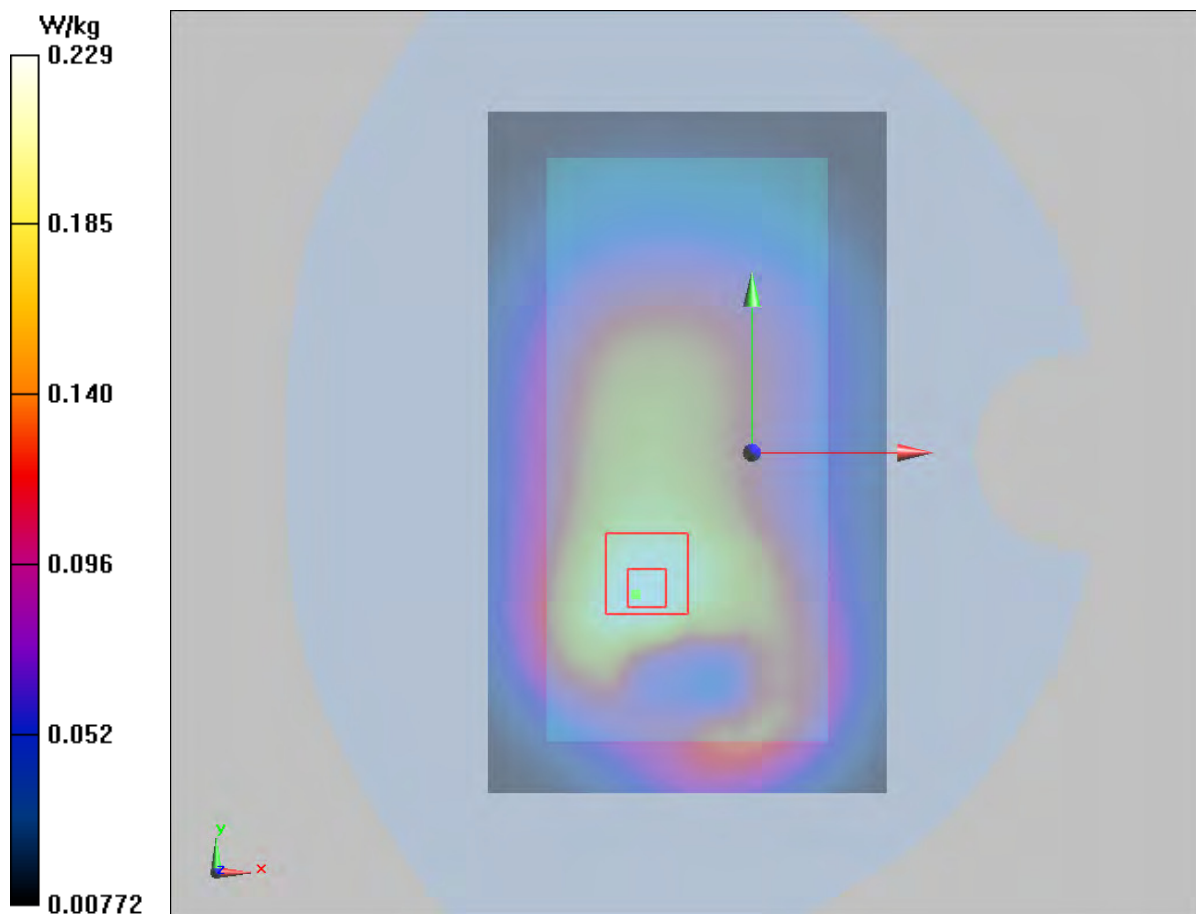
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.56 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.281 W/kg

**SAR(1 g) = 0.215 W/kg; SAR(10 g) = 0.156 W/kg**

Maximum value of SAR (measured) = 0.229 W/kg



## Plot 62 LTE Band 5 1RB Back Side Low (Distance 10mm)

Date: 9/13/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 829 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 829$  MHz;  $\sigma = 1.005$  S/m;  $\epsilon_r = 55.487$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.349 W/kg

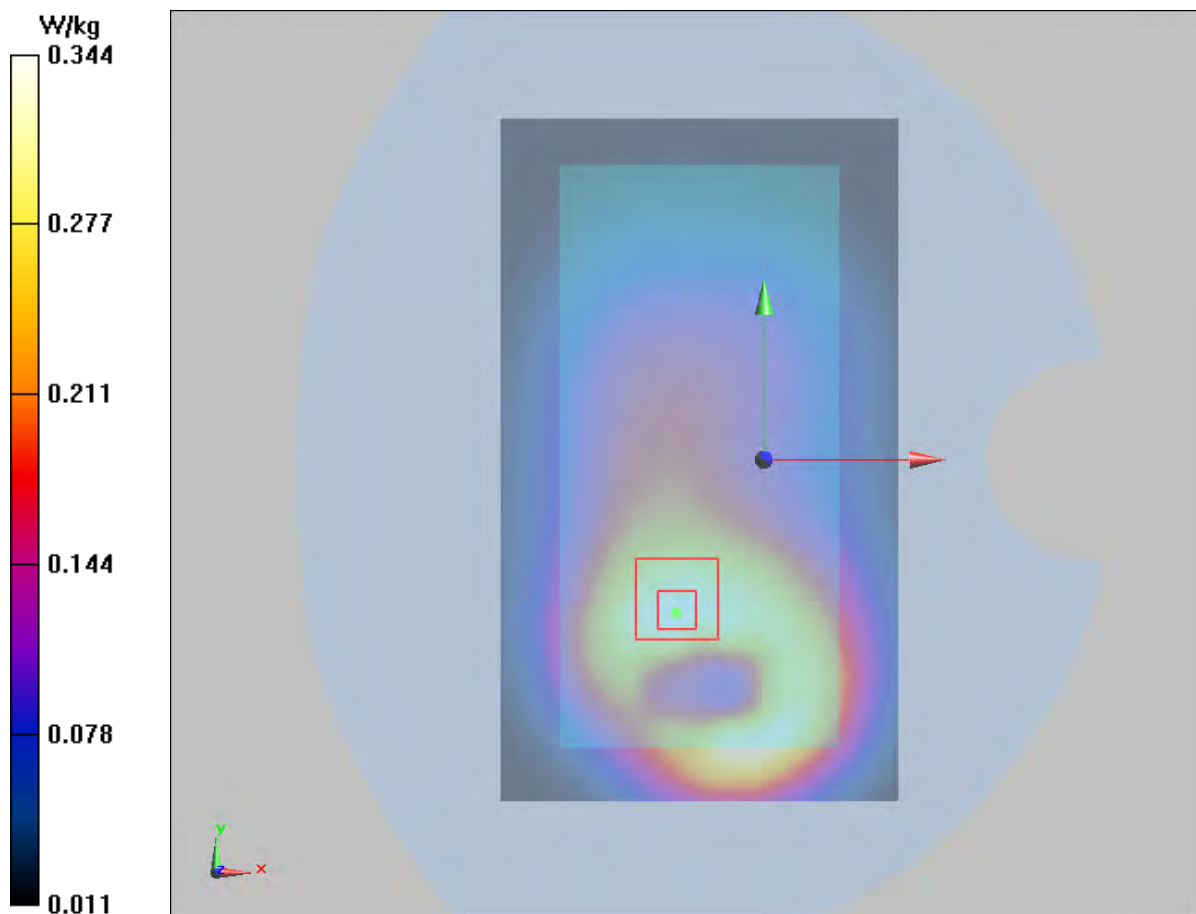
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.36 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.443 W/kg

**SAR(1 g) = 0.322 W/kg; SAR(10 g) = 0.224 W/kg**

Maximum value of SAR (measured) = 0.344 W/kg





# **Plot 63 LTE Band 7 1RB Right Cheek Low (REC On+Hotspot Off, Battery 2)**

Date: 9/16/2017

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 1.91$  S/m;  $\epsilon_r = 40.624$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.284 W/kg

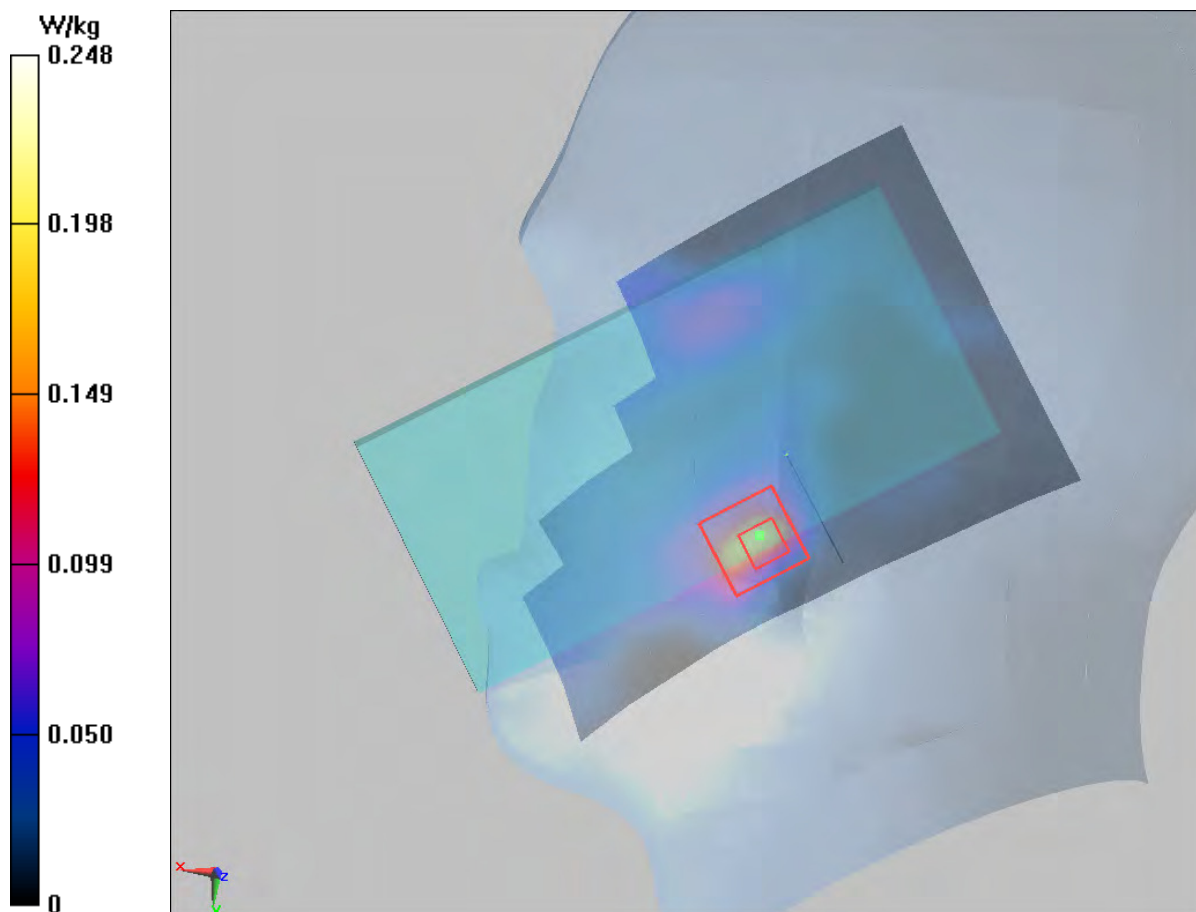
**Right Cheek Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.190 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.354 W/kg

**SAR(1 g) = 0.233 W/kg; SAR(10 g) = 0.105 W/kg**

Maximum value of SAR (measured) = 0.248 W/kg



# **Plot 64 LTE Band 7 1RB Front Side Low (Hotspot Off, Distance 15mm)**

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 51.469$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Low/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.312 W/kg

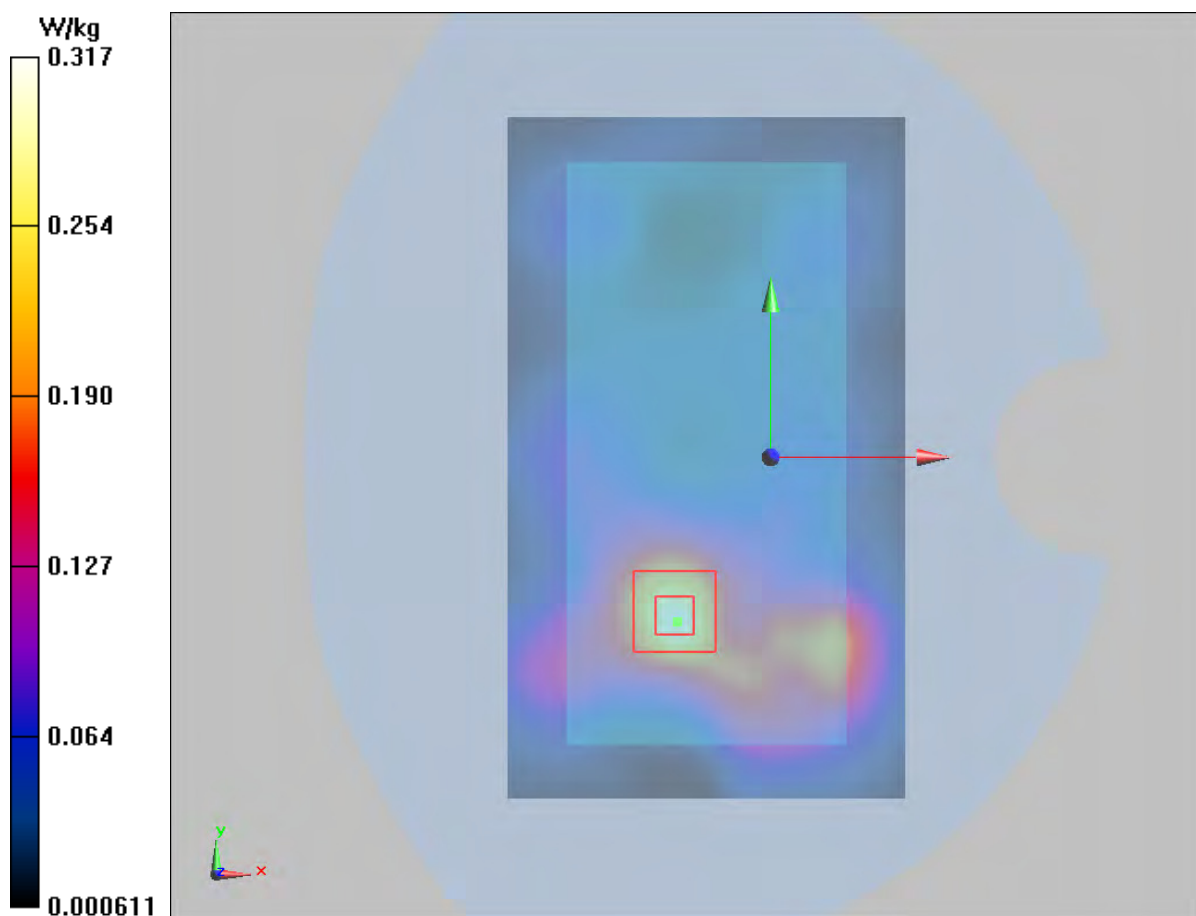
**Front Side Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.680 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.523 W/kg

**SAR(1 g) = 0.283 W/kg; SAR(10 g) = 0.146 W/kg**

Maximum value of SAR (measured) = 0.317 W/kg





# Plot 65 LTE Band 7 1RB Front Side Low (Distance 10mm)

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 51.469$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Low/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.589 W/kg

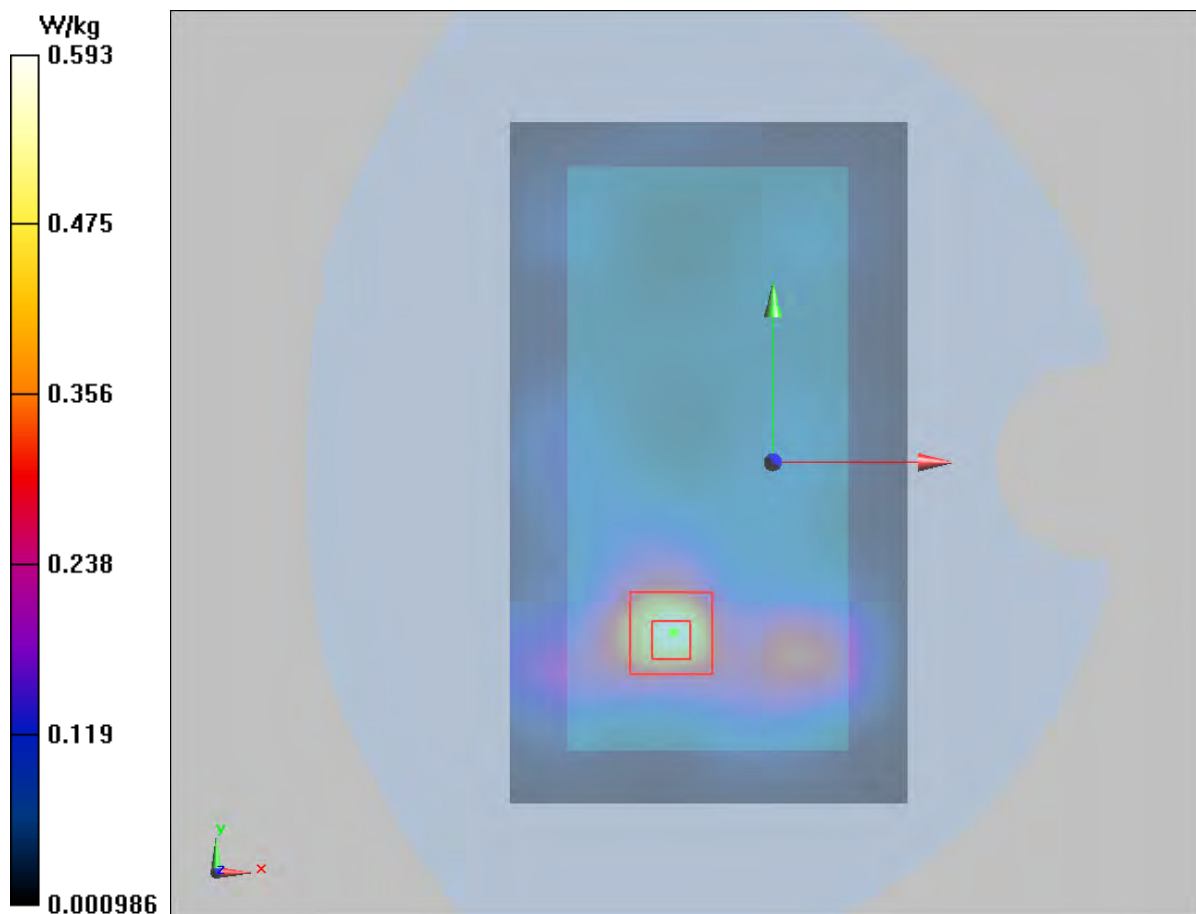
**Front Side Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 3.741 V/m; Power Drift = -0.19 dB

Peak SAR (extrapolated) = 1.03 W/kg

**SAR(1 g) = 0.526 W/kg; SAR(10 g) = 0.252 W/kg**

Maximum value of SAR (measured) = 0.593 W/kg



## Plot 66 LTE Band 12 1RB Right Cheek High (Battery 2)

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 711$  MHz;  $\sigma = 0.87$  S/m;  $\epsilon_r = 43.041$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.58, 9.58, 9.58); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.235 W/kg

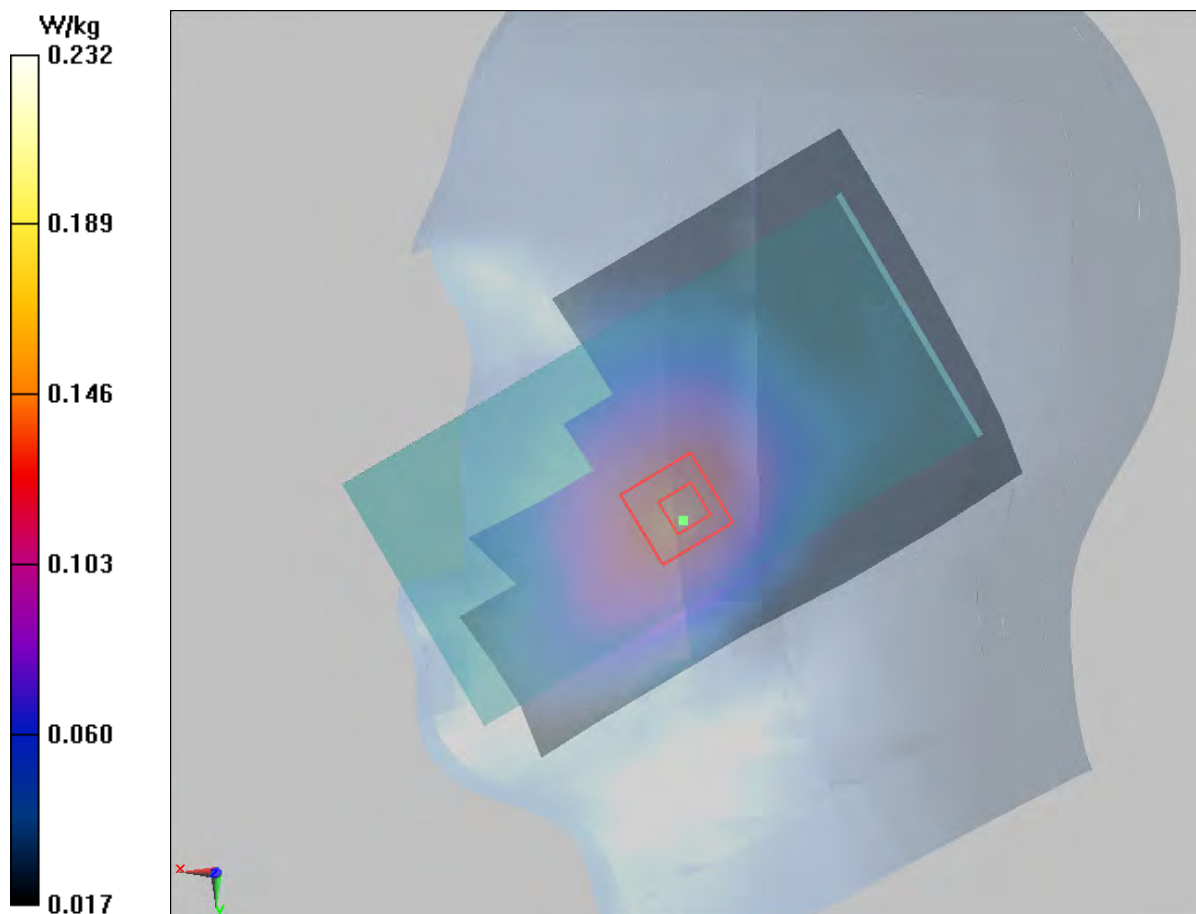
**Right Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.739 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.257 W/kg

**SAR(1 g) = 0.227 W/kg; SAR(10 g) = 0.150 W/kg**

Maximum value of SAR (measured) = 0.232 W/kg



# Plot 67 LTE Band 12 1RB Back Side High (Distance 15mm)

Date: 9/14/2017

Communication System: UID 0, LTE (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 711$  MHz;  $\sigma = 0.927$  S/m;  $\epsilon_r = 55.371$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.211 W/kg

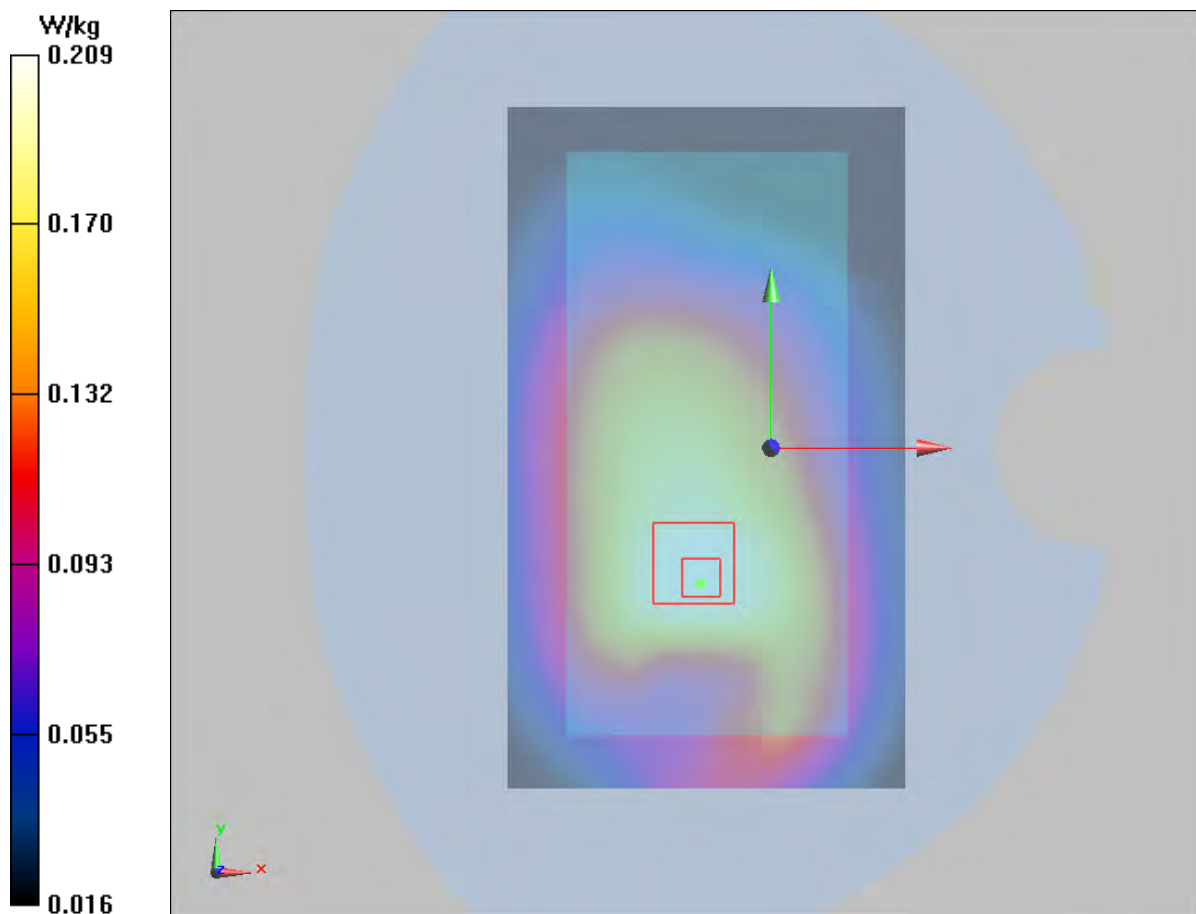
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.62 V/m; Power Drift = -0.00 dB

Peak SAR (extrapolated) = 0.250 W/kg

**SAR(1 g) = 0.200 W/kg; SAR(10 g) = 0.153 W/kg**

Maximum value of SAR (measured) = 0.209 W/kg



# Plot 68 LTE Band 12 1RB Front Side High (Distance 10mm)

Date: 9/14/2017

Communication System: UID 0, LTE (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 711$  MHz;  $\sigma = 0.927$  S/m;  $\epsilon_r = 55.371$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.284 W/kg

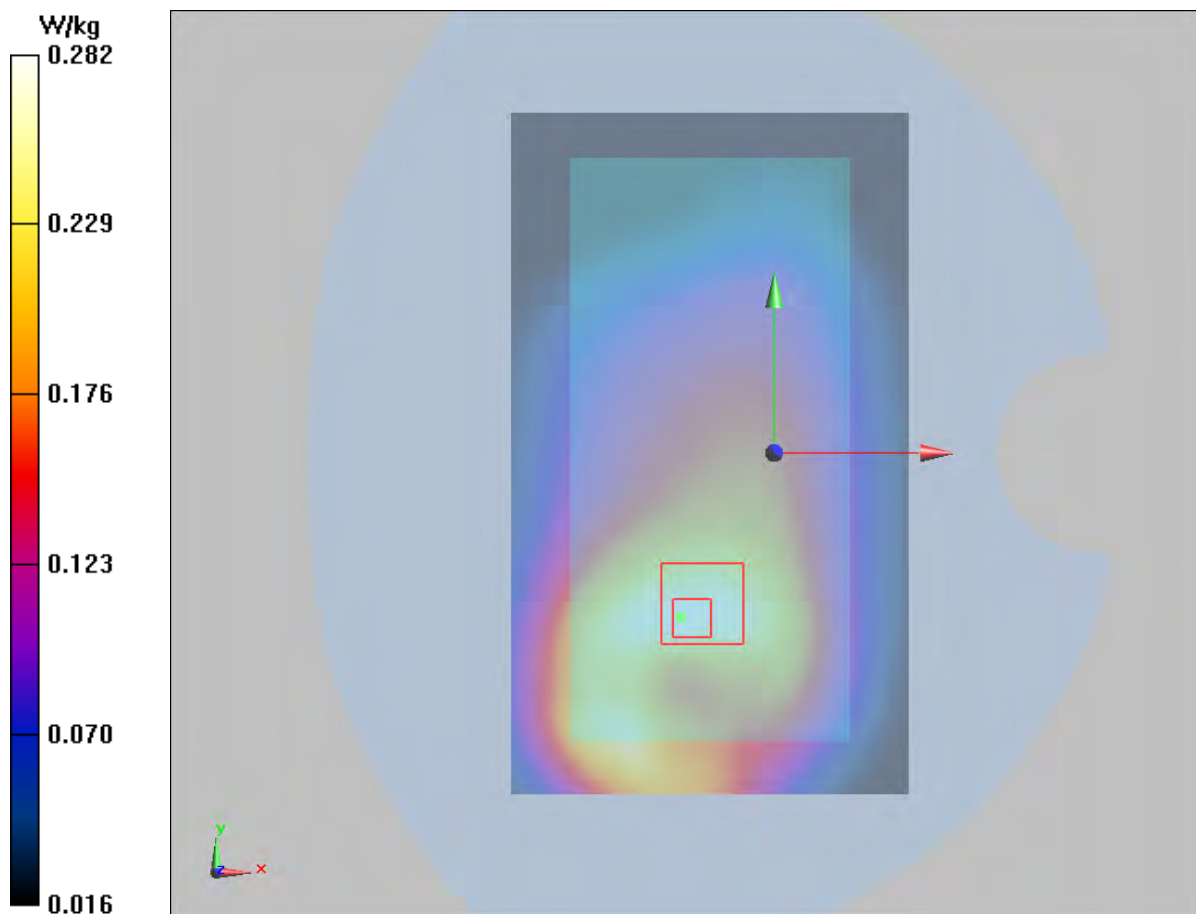
**Front Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 13.26 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.359 W/kg

**SAR(1 g) = 0.266 W/kg; SAR(10 g) = 0.194 W/kg**

Maximum value of SAR (measured) = 0.282 W/kg



# Plot 69 LTE Band 17 1RB Right Cheek Low

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709 \text{ MHz}$ ;  $\sigma = 0.868 \text{ S/m}$ ;  $\epsilon_r = 43.058$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$  Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.58, 9.58, 9.58); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.224 \text{ W/kg}$

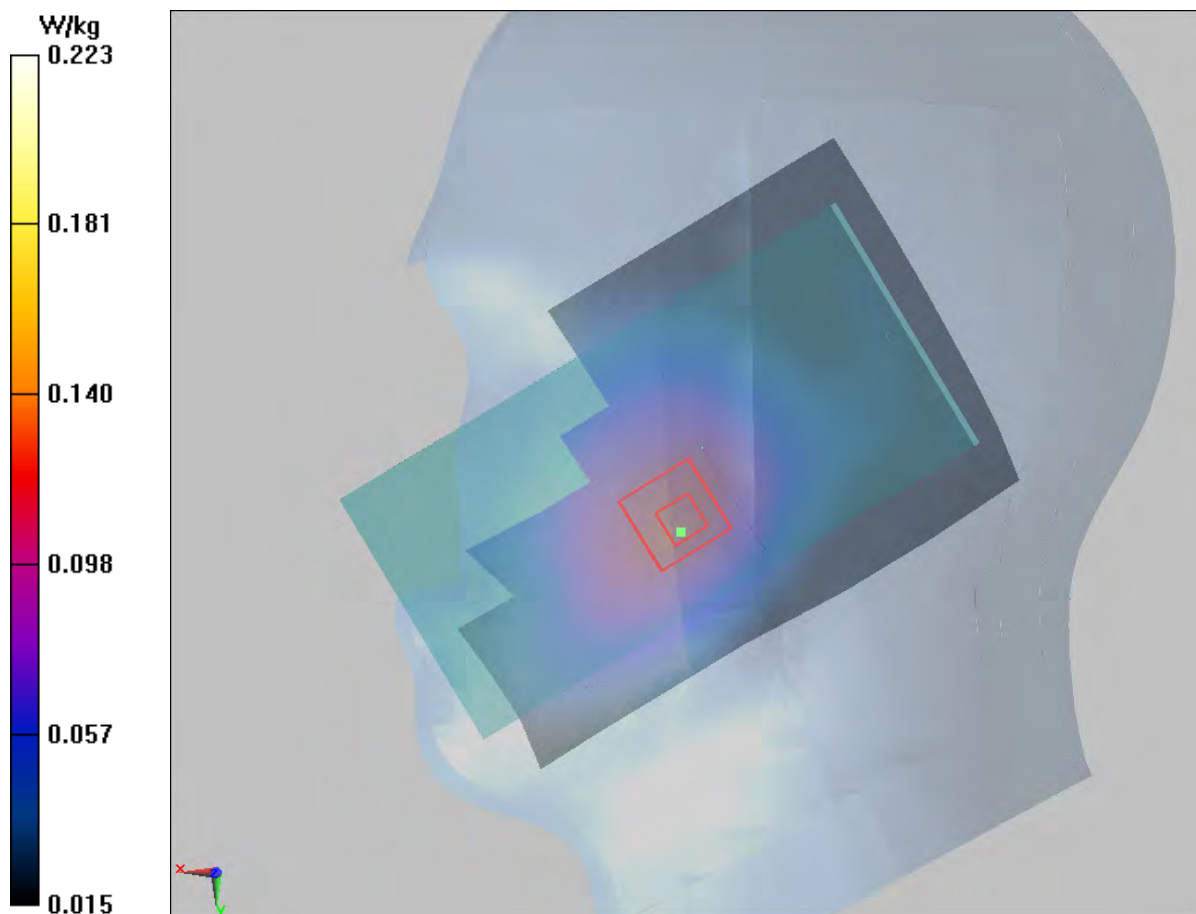
**Right Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $4.835 \text{ V/m}$ ; Power Drift =  $-0.04 \text{ dB}$

Peak SAR (extrapolated) =  $0.247 \text{ W/kg}$

**SAR(1 g) =  $0.218 \text{ W/kg}$ ; SAR(10 g) =  $0.102 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.223 \text{ W/kg}$



# Plot 70 LTE Band 17 1RB Back Side Low (Distance 15mm)

Date: 9/14/2017

Communication System: UID 0, LTE (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709 \text{ MHz}$ ;  $\sigma = 0.925 \text{ S/m}$ ;  $\epsilon_r = 55.396$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$  Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.209 \text{ W/kg}$

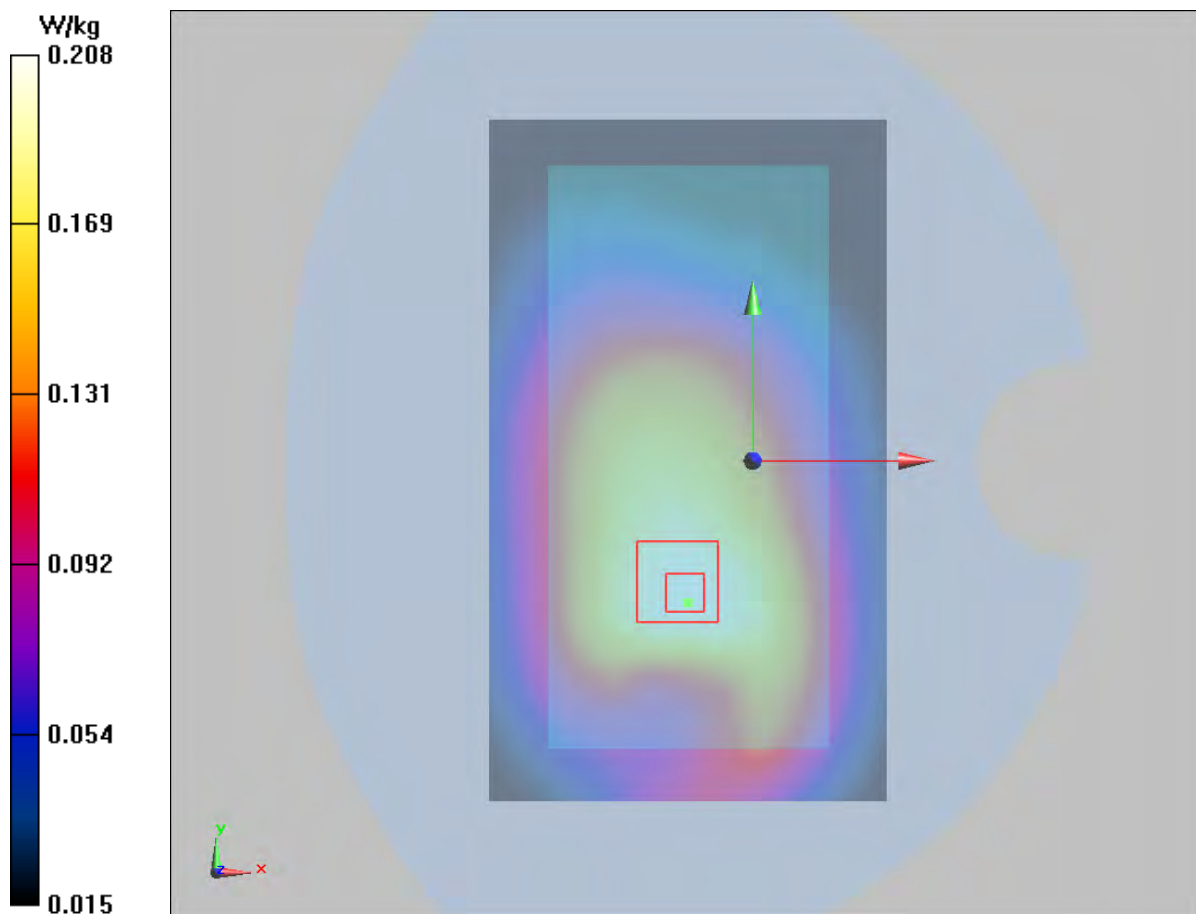
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $13.41 \text{ V/m}$ ; Power Drift =  $0.02 \text{ dB}$

Peak SAR (extrapolated) =  $0.250 \text{ W/kg}$

**SAR(1 g) =  $0.198 \text{ W/kg}$ ; SAR(10 g) =  $0.151 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.208 \text{ W/kg}$





# Plot 71 LTE Band 17 1RB Back Side Low (Distance 10mm)

Date: 9/14/2017

Communication System: UID 0, LTE (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709 \text{ MHz}$ ;  $\sigma = 0.925 \text{ S/m}$ ;  $\epsilon_r = 55.396$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$  Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM1; Type: SAM; Serial: TP-1534

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.285 \text{ W/kg}$

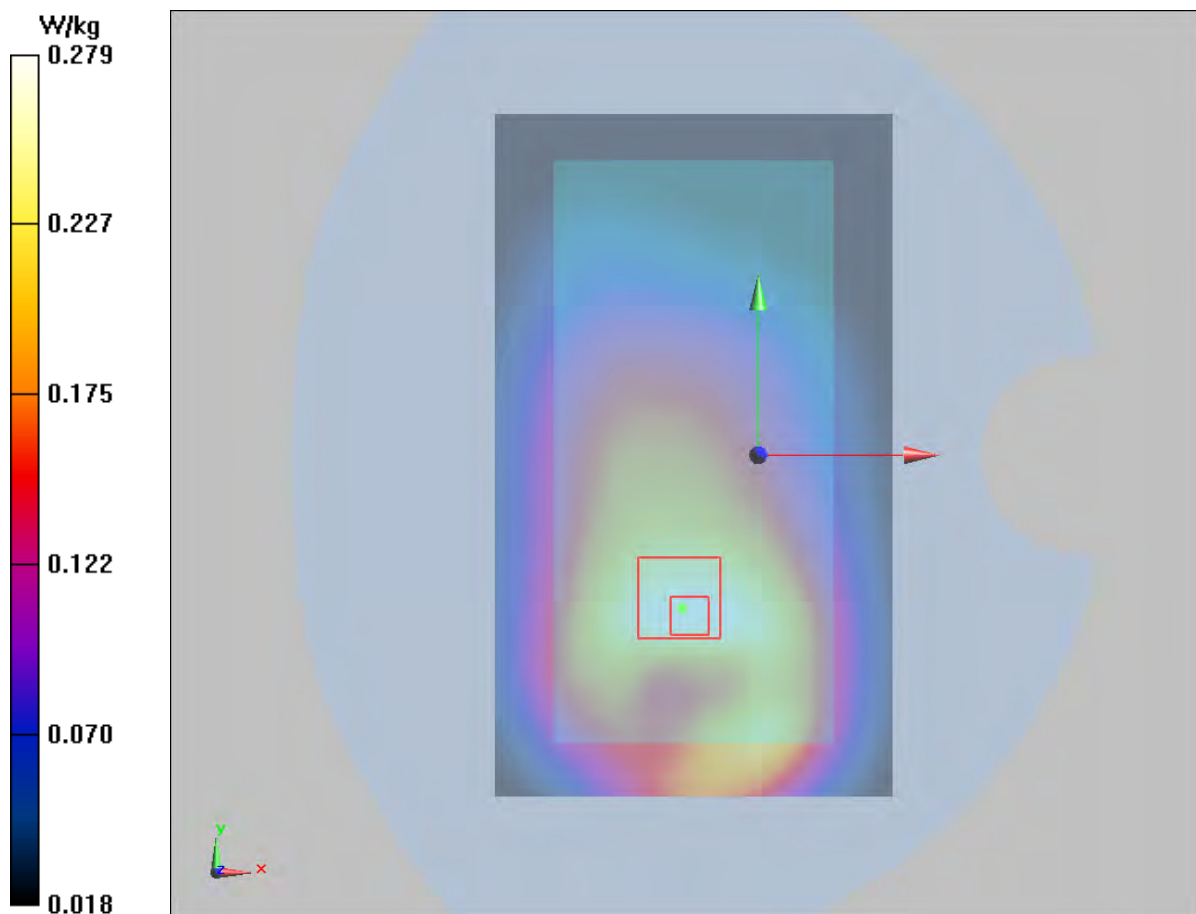
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $13.67 \text{ V/m}$ ; Power Drift =  $0.01 \text{ dB}$

Peak SAR (extrapolated) =  $0.357 \text{ W/kg}$

**SAR(1 g) =  $0.266 \text{ W/kg}$ ; SAR(10 g) =  $0.195 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.279 \text{ W/kg}$



## Plot 72 LTE Band 26 1RB Right Cheek Low

Date: 9/12/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 822.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 822.5$  MHz;  $\sigma = 0.926$  S/m;  $\epsilon_r = 42.607$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.218 W/kg

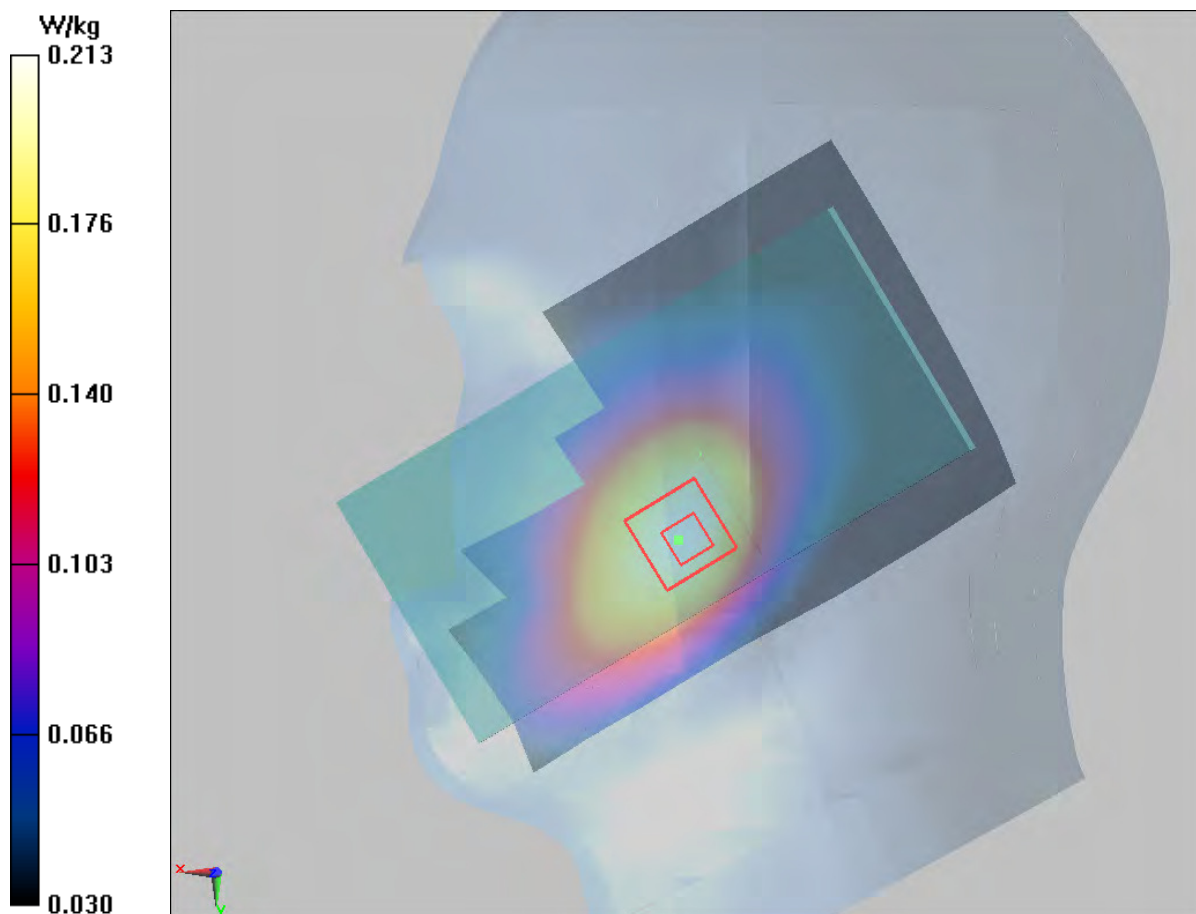
**Right Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.038 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.249 W/kg

**SAR(1 g) = 0.204 W/kg; SAR(10 g) = 0.156 W/kg**

Maximum value of SAR (measured) = 0.213 W/kg





# Plot 73 LTE Band 26 1RB Back Side Low (Distance 15mm)

Date: 9/13/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 822.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 822.5$  MHz;  $\sigma = 0.997$  S/m;  $\epsilon_r = 55.563$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.294 W/kg

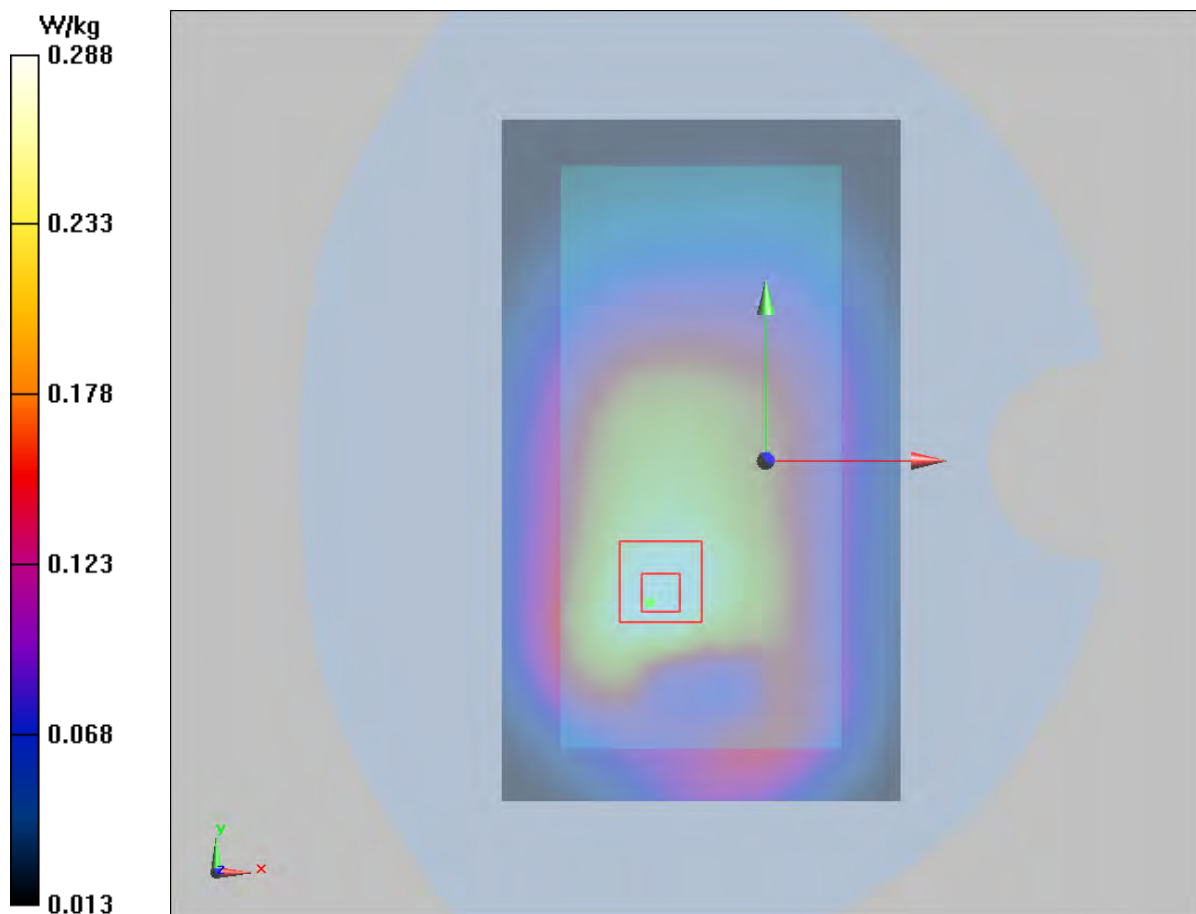
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.00 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.345 W/kg

**SAR(1 g) = 0.274 W/kg; SAR(10 g) = 0.204 W/kg**

Maximum value of SAR (measured) = 0.288 W/kg



# Plot 74 LTE Band 26 1RB Back Side Low (Distance 10mm)

Date: 9/13/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 822.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 822.5$  MHz;  $\sigma = 0.997$  S/m;  $\epsilon_r = 55.563$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.395 W/kg

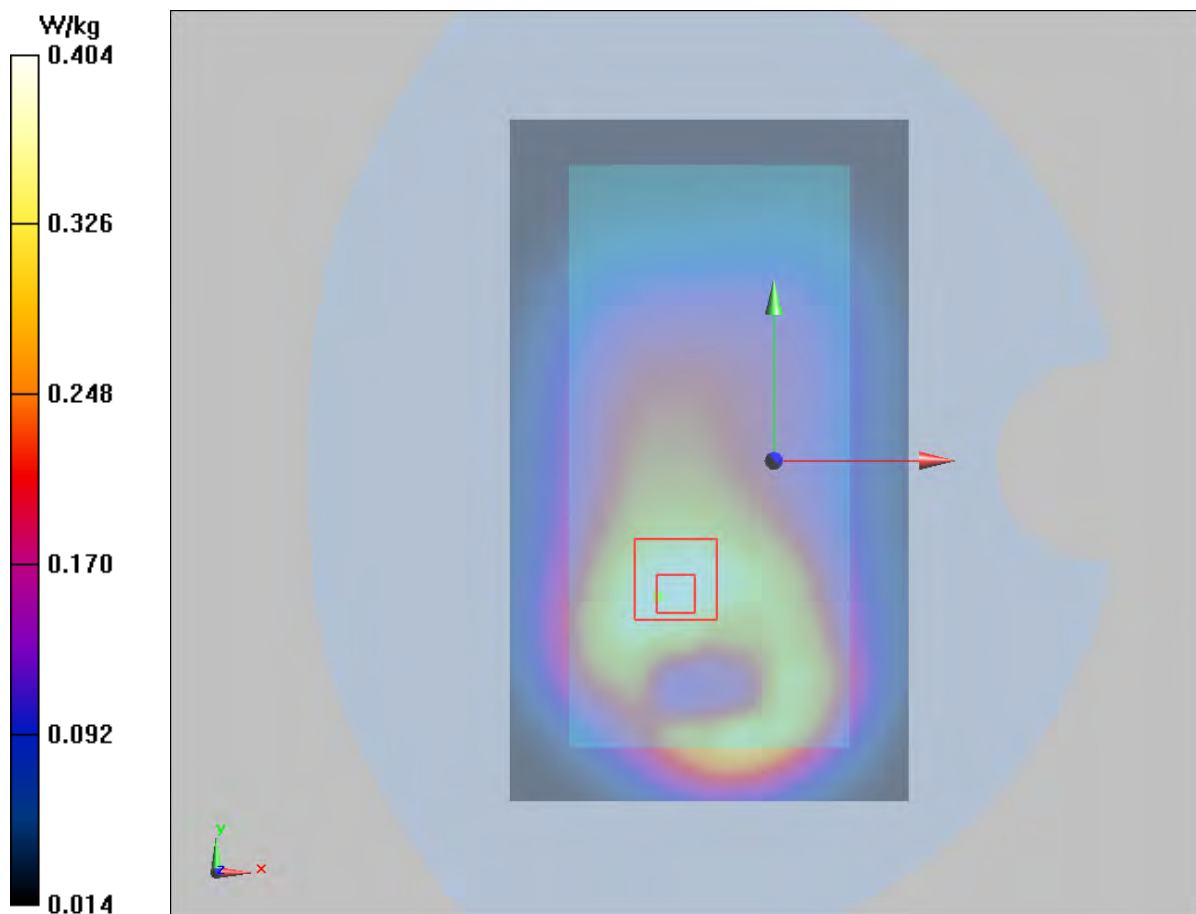
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.48 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.515 W/kg

**SAR(1 g) = 0.381 W/kg; SAR(10 g) = 0.271 W/kg**

Maximum value of SAR (measured) = 0.404 W/kg



## Plot 75 LTE Band 38 1RB Left Cheek High

Date: 9/16/2017

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.021$  S/m;  $\epsilon_r = 40.298$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.211 W/kg

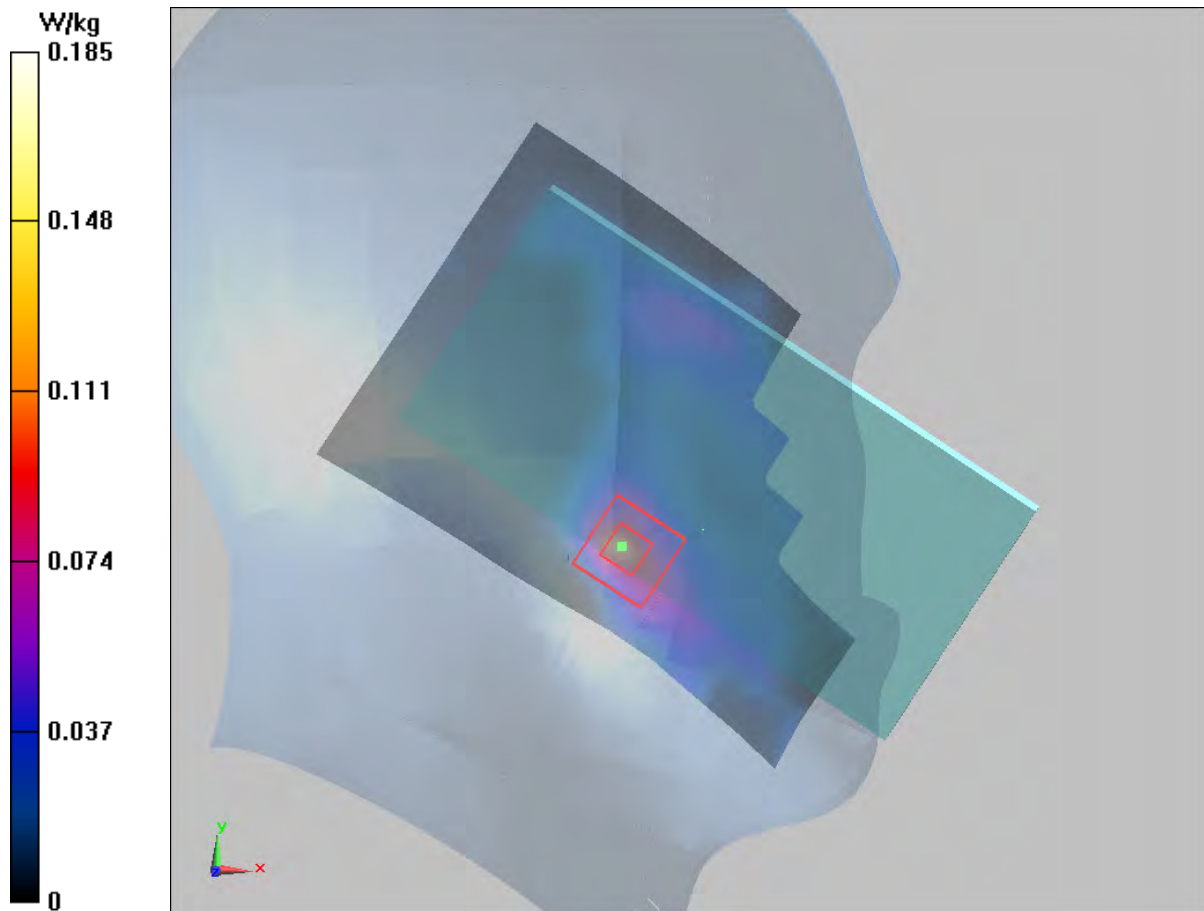
**Left Cheek High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.234 W/kg

**SAR(1 g) = 0.177 W/kg; SAR(10 g) = 0.079 W/kg**

Maximum value of SAR (measured) = 0.185 W/kg



# Plot 76 LTE Band 38 1RB Front Side High (Distance 15mm)

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.15$  S/m;  $\epsilon_r = 51.166$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.175 W/kg

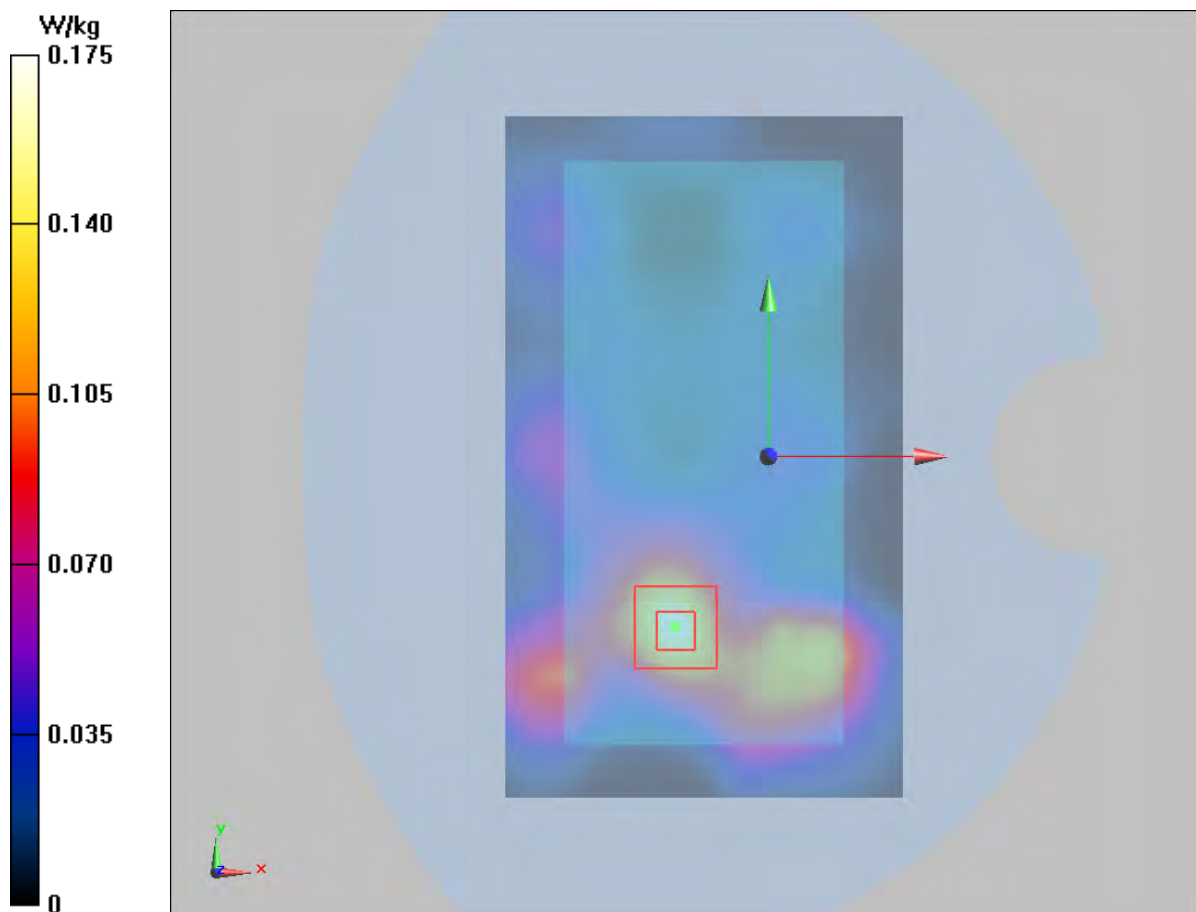
**Front Side High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.621 V/m; Power Drift = -0.040 dB

Peak SAR (extrapolated) = 0.292 W/kg

**SAR(1 g) = 0.154 W/kg; SAR(10 g) = 0.077 W/kg**

Maximum value of SAR (measured) = 0.175 W/kg



# Plot 77 LTE Band 38 1RB Front Side High (Distance 10mm)

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.15$  S/m;  $\epsilon_r = 51.166$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.461 W/kg

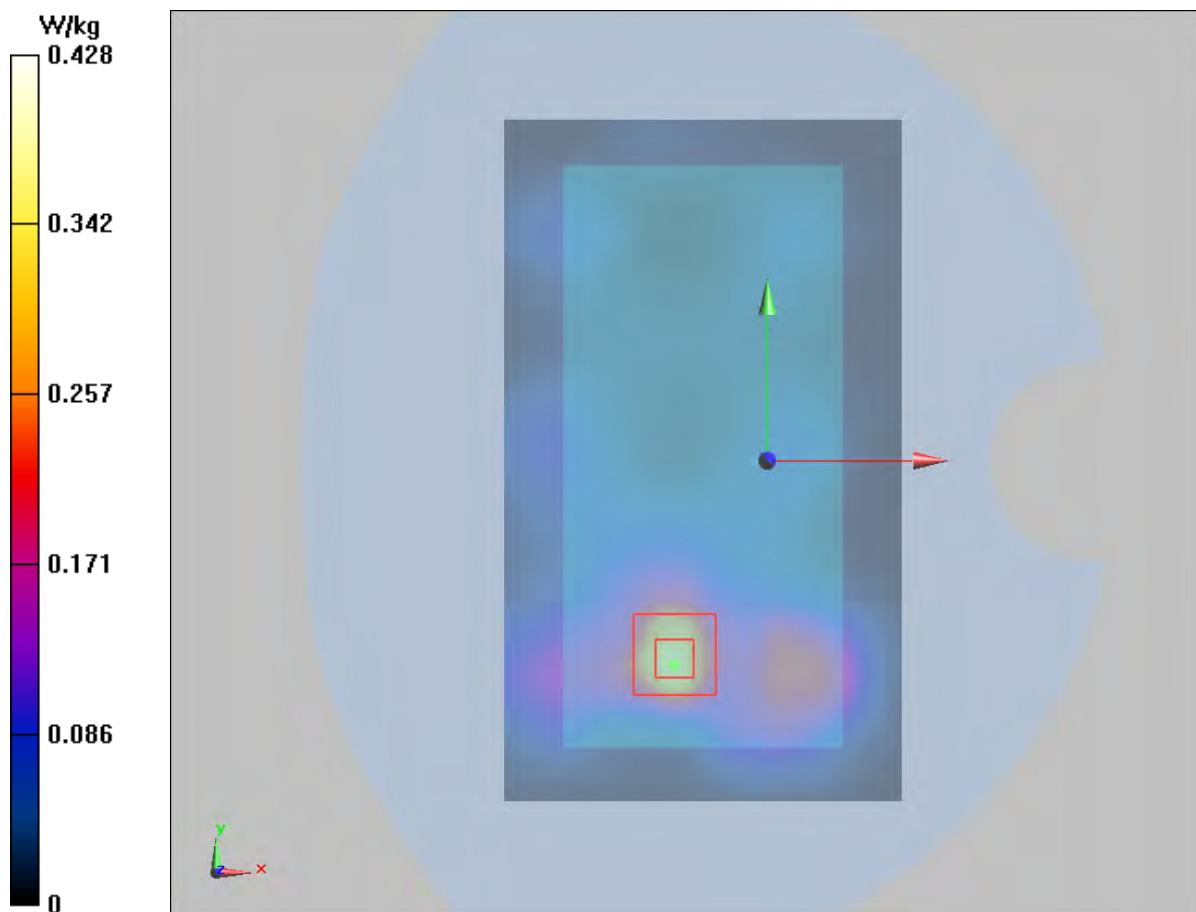
**Front Side High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.998 V/m; Power Drift = -0.056 dB

Peak SAR (extrapolated) = 0.721 W/kg

**SAR(1 g) = 0.367 W/kg; SAR(10 g) = 0.171 W/kg**

Maximum value of SAR (measured) = 0.428 W/kg



## Plot 78 LTE Band 41 1RB Left Cheek High

Date: 9/16/2017

Communication System: UID 0, LTE (0); Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2645$  MHz;  $\sigma = 2.061$  S/m;  $\epsilon_r = 40.122$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.249 W/kg

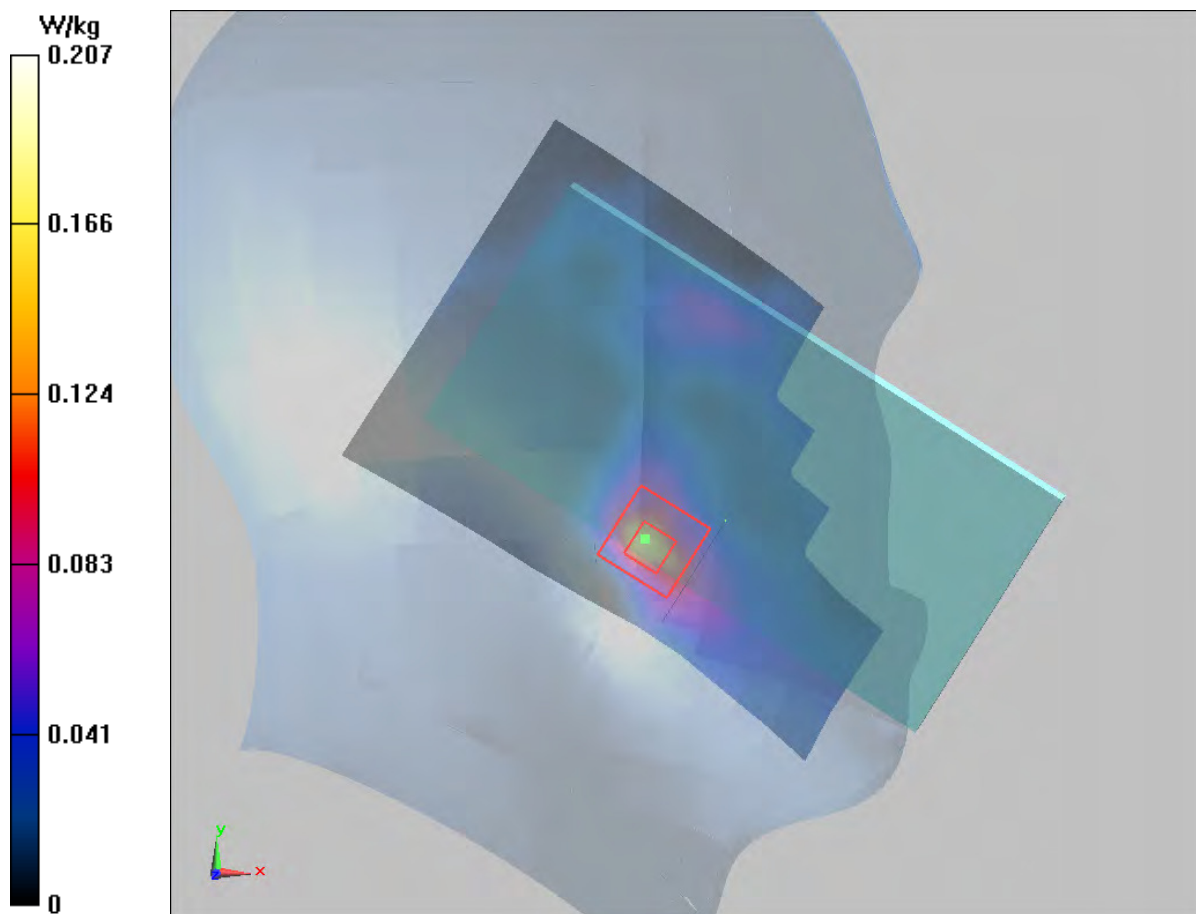
**Left Cheek High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.264 W/kg

**SAR(1 g) = 0.195 W/kg; SAR(10 g) = 0.089 W/kg**

Maximum value of SAR (measured) = 0.207 W/kg





# Plot 79 LTE Band 41 1RB Front Side High (Distance 15mm)

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2645$  MHz;  $\sigma = 2.192$  S/m;  $\epsilon_r = 51.066$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.223 W/kg

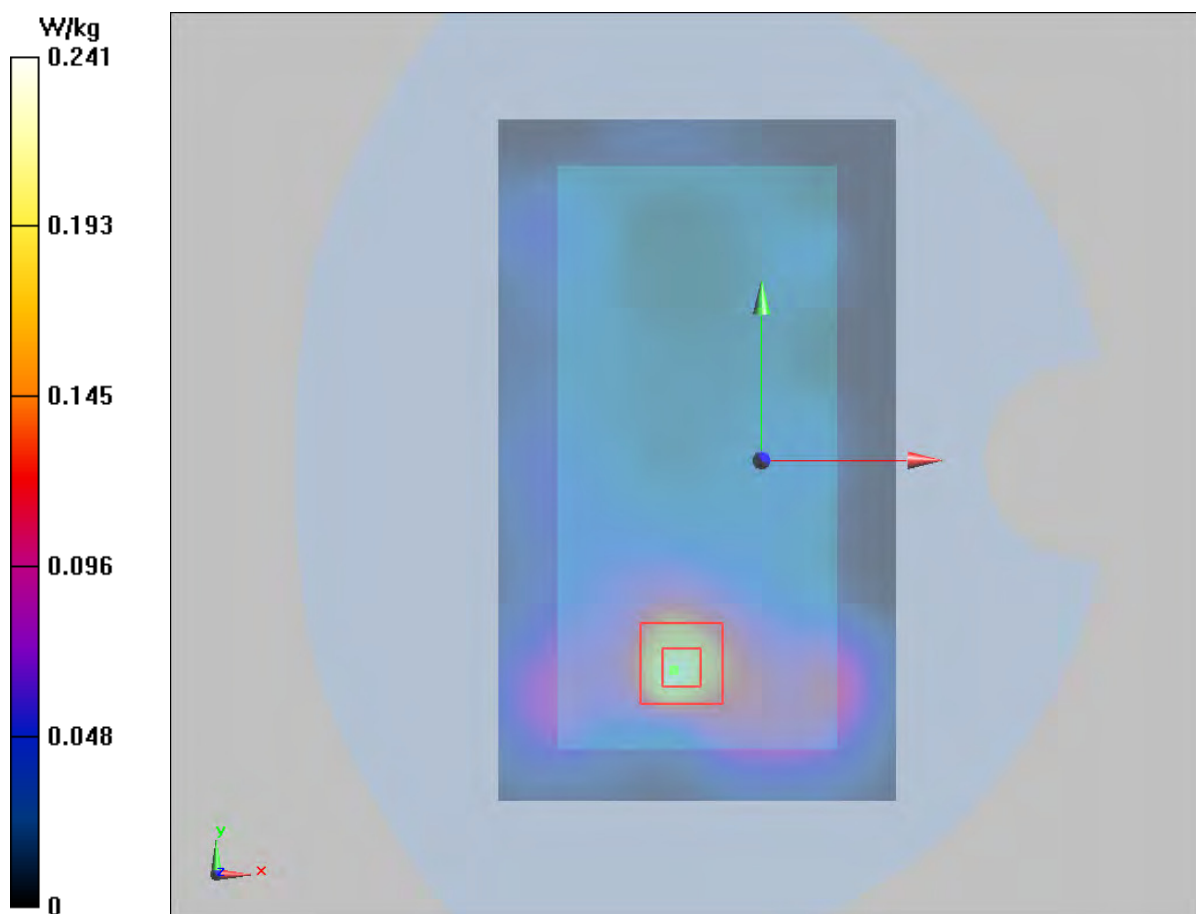
**Front Side High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.526 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.412 W/kg

**SAR(1 g) = 0.211 W/kg; SAR(10 g) = 0.100 W/kg**

Maximum value of SAR (measured) = 0.241 W/kg



# Plot 80 LTE Band 41 1RB Bottom Edge High (Distance 10mm)

Date: 9/15/2017

Communication System: UID 0, LTE (0); Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2645$  MHz;  $\sigma = 2.192$  S/m;  $\epsilon_r = 51.066$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Bottom Edge High/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.537 W/kg

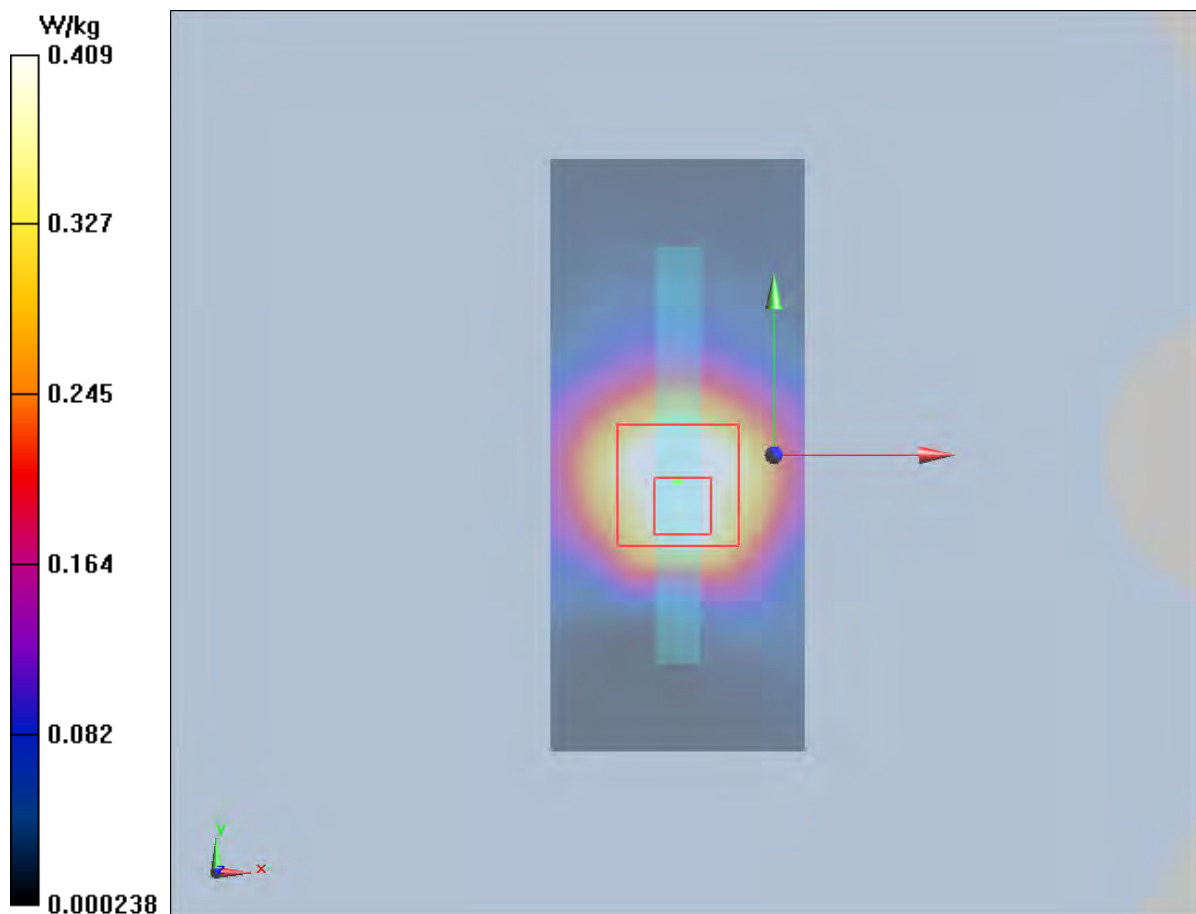
**Bottom Edge High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 12.81 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 0.732 W/kg

**SAR(1 g) = 0.377 W/kg; SAR(10 g) = 0.202 W/kg**

Maximum value of SAR (measured) = 0.409 W/kg





## Antenna 2

### Plot 81 GSM 850 Left Cheek Middle (Single=REC On+Left Head, Battery 2)

Date: 9/16/2017

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.94$  S/m;  $\epsilon_r = 42.425$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.723 W/kg

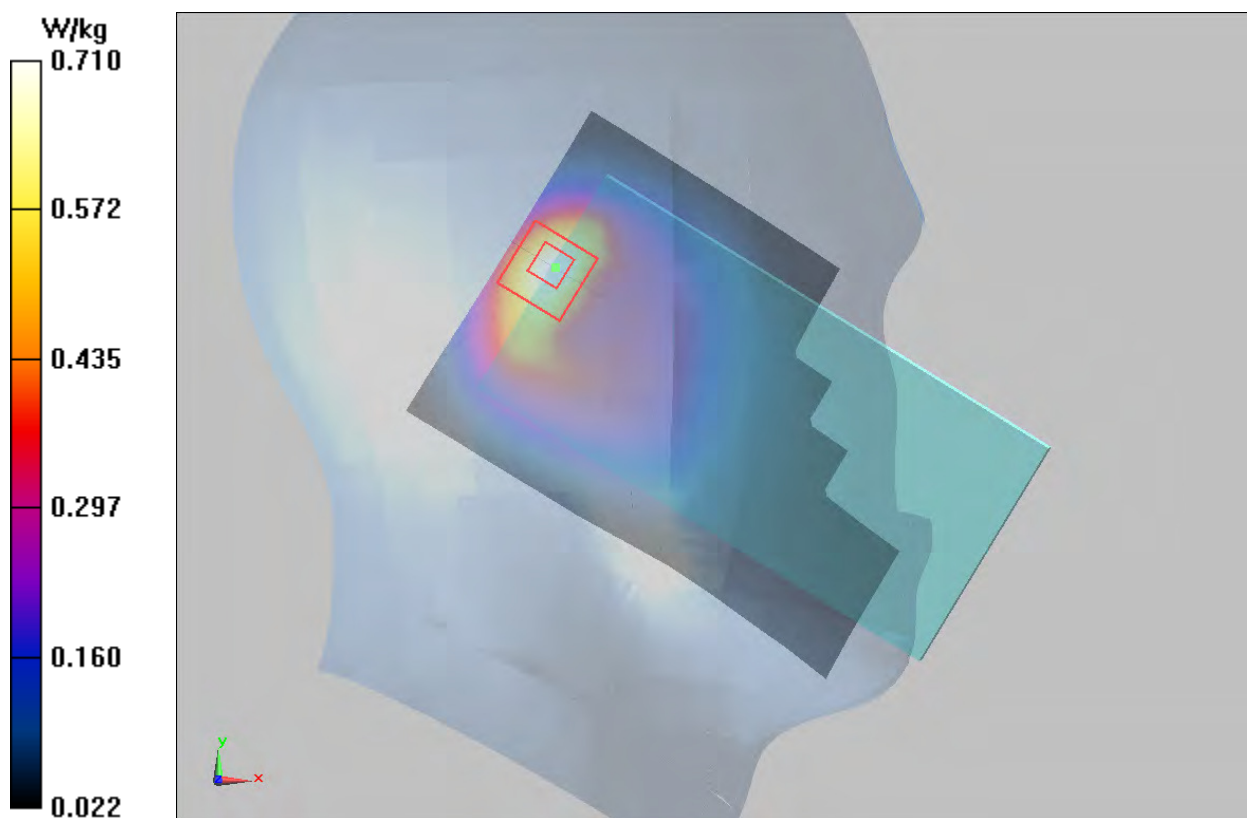
**Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.02 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.22 W/kg

**SAR(1 g) = 0.632 W/kg; SAR(10 g) = 0.335 W/kg**

Maximum value of SAR (measured) = 0.710 W/kg



# Plot 82 GSM 850 Front Side Middle (Single=REC Off, Distance 15mm)

Date: 9/18/2017

Communication System: UID 0, GSM (0); Frequency: 836.6 MHz; Duty Cycle: 1:8.30042

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 55.395$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.1890 W/kg

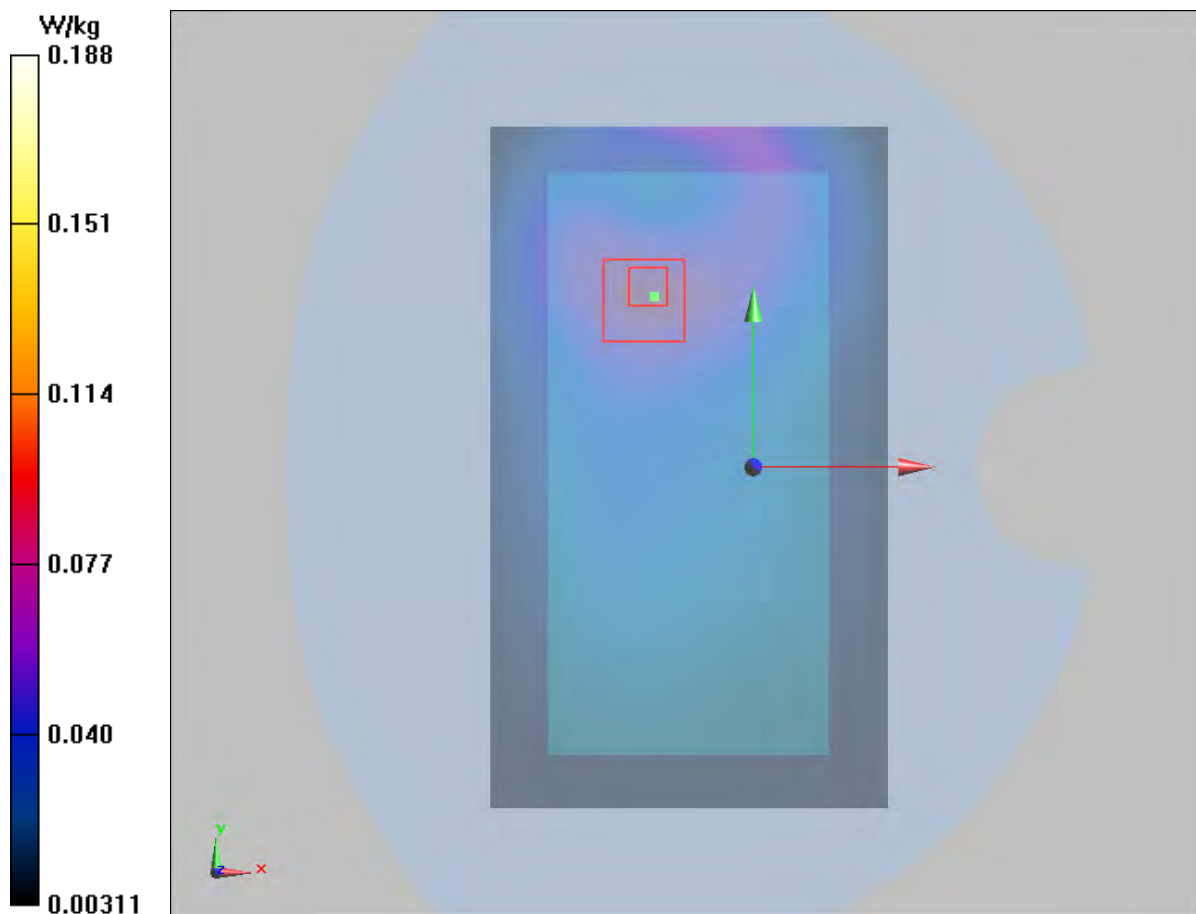
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.698 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 0.215 W/kg

**SAR(1 g) = 0.184 W/kg; SAR(10 g) = 0.098 W/kg**

Maximum value of SAR (measured) = 0.188 W/kg



# **Plot 83 GSM 850 GPRS (2Txslots) Back Side Middle (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/18/2017

Communication System: UID 0, 2 slot GPRS (0); Frequency: 836.6 MHz; Duty Cycle: 1:4.14954

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 55.395$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.247 W/kg

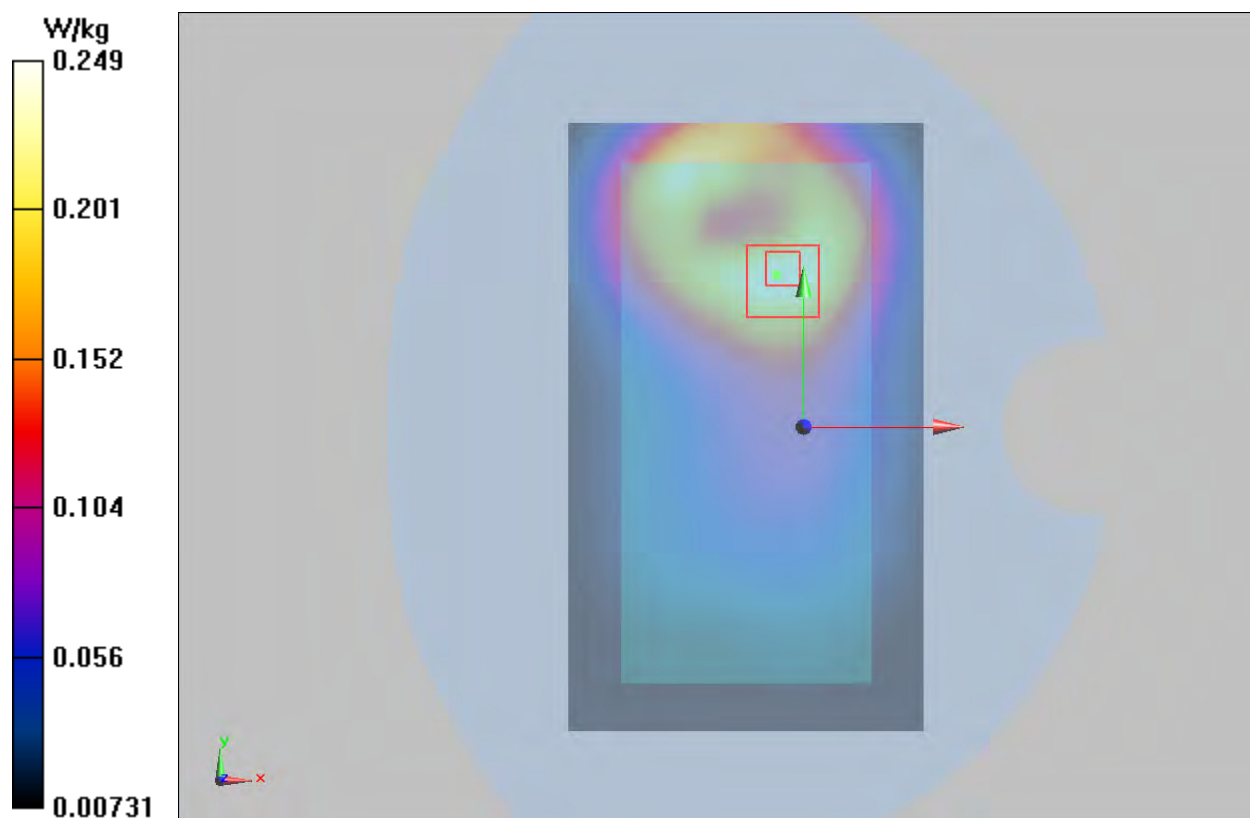
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.268 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 0.337 W/kg

**SAR(1 g) = 0.235 W/kg; SAR(10 g) = 0.159 W/kg**

Maximum value of SAR (measured) = 0.249 W/kg



# **Plot 84 GSM 1900 Left Cheek Middle (Single=REC On+Left Head, Battery 2)**

Date: 9/26/2017

Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.37$  S/m;  $\epsilon_r = 40.575$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.726 W/kg

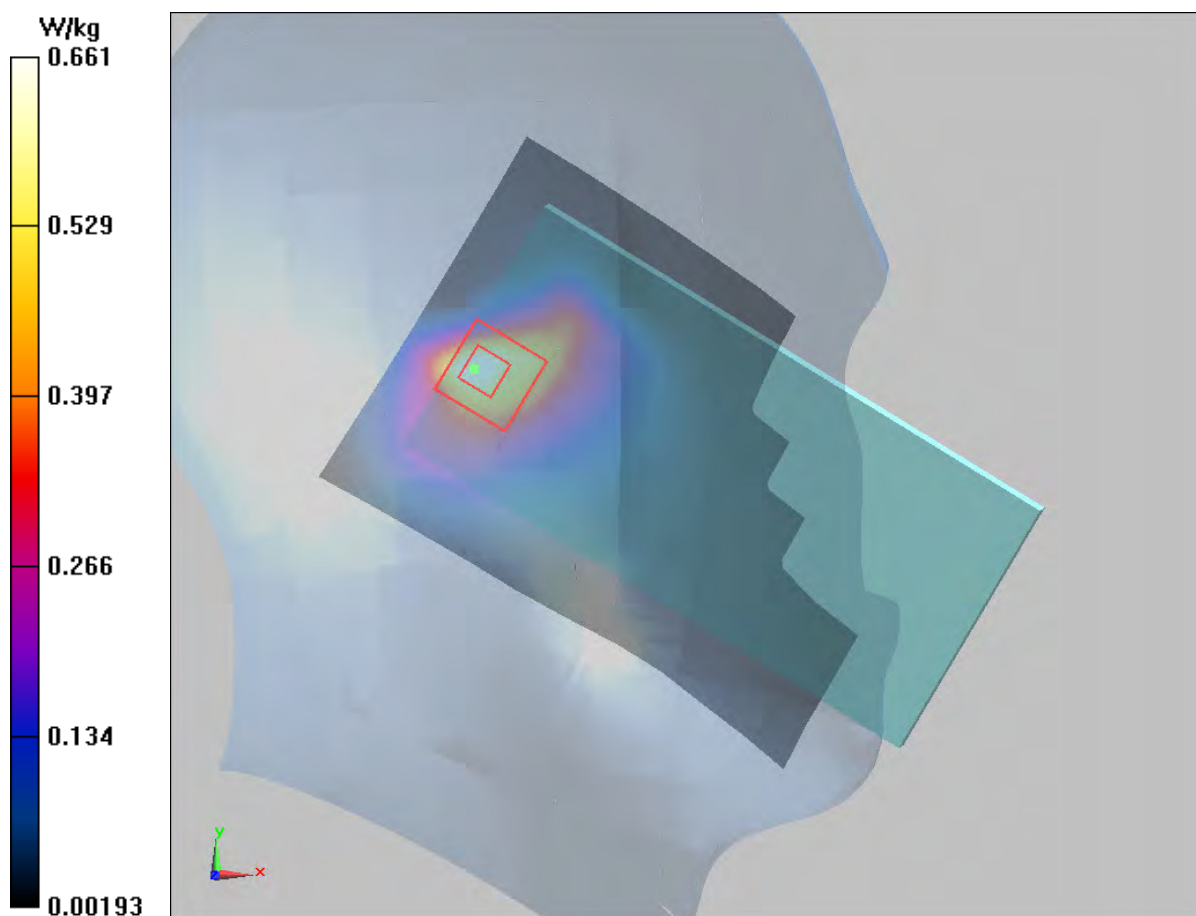
**Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 18.27 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.967 W/kg

**SAR(1 g) = 0.592 W/kg; SAR(10 g) = 0.324 W/kg**

Maximum value of SAR (measured) = 0.661 W/kg



# Plot 85 GSM 1900 Front Side Middle (Single=REC Off, Distance 15mm)

Date: 9/22/2017

Communication System: UID 0, GSM 1900 (0); Frequency: 1880 MHz;Duty Cycle: 1:8.30042

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.154 W/kg

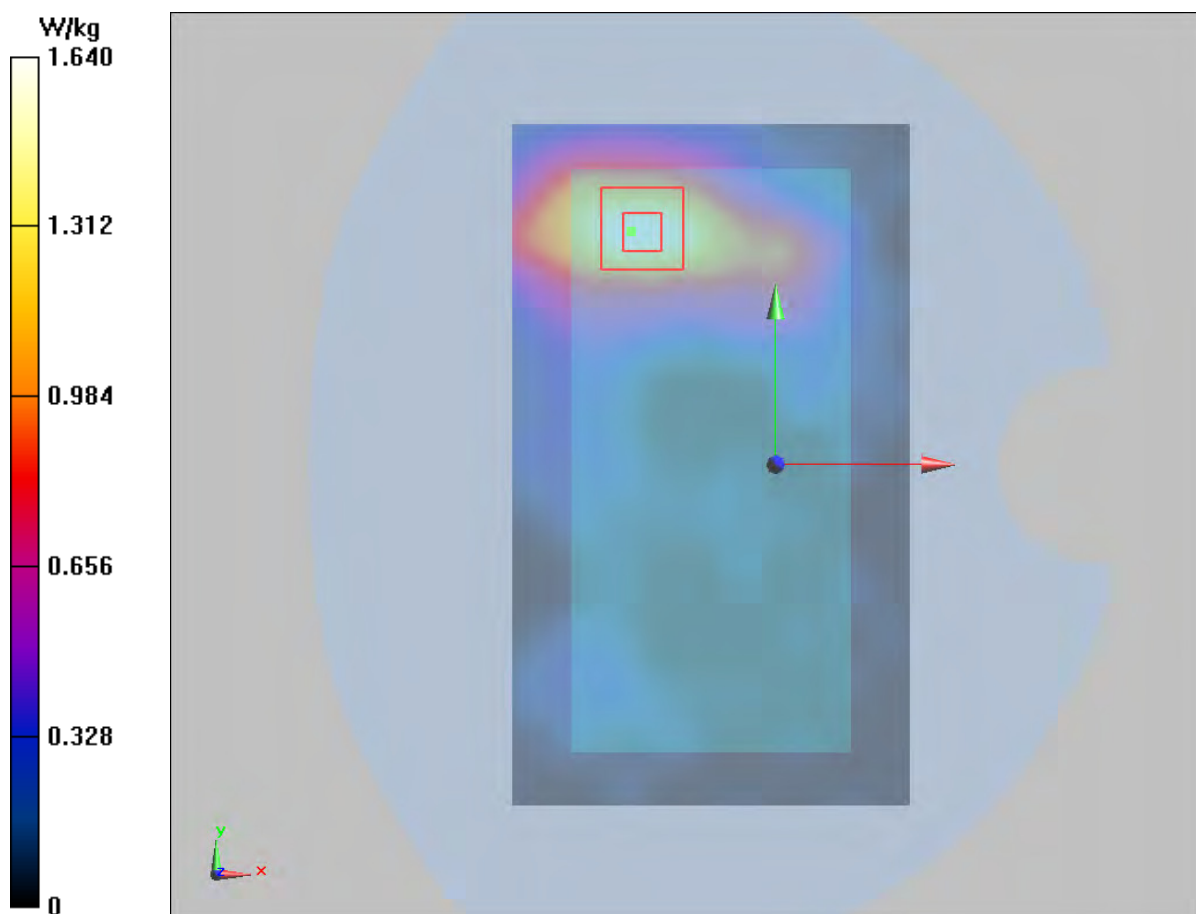
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 2.389 V/m; Power Drift = -0.062 dB

Peak SAR (extrapolated) = 0.179 W/kg

**SAR(1 g) = 0.142 W/kg; SAR(10 g) = 0.722 W/kg**

Maximum value of SAR (measured) = 1.64 W/kg



# **Plot 86 GSM 1900 GPRS (2Txslots) Back Side Middle (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/22/2017

Communication System: UID 0, EGPRS 2TX (0); Frequency: 1880 MHz; Duty Cycle: 1:4.14954

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.186 W/kg

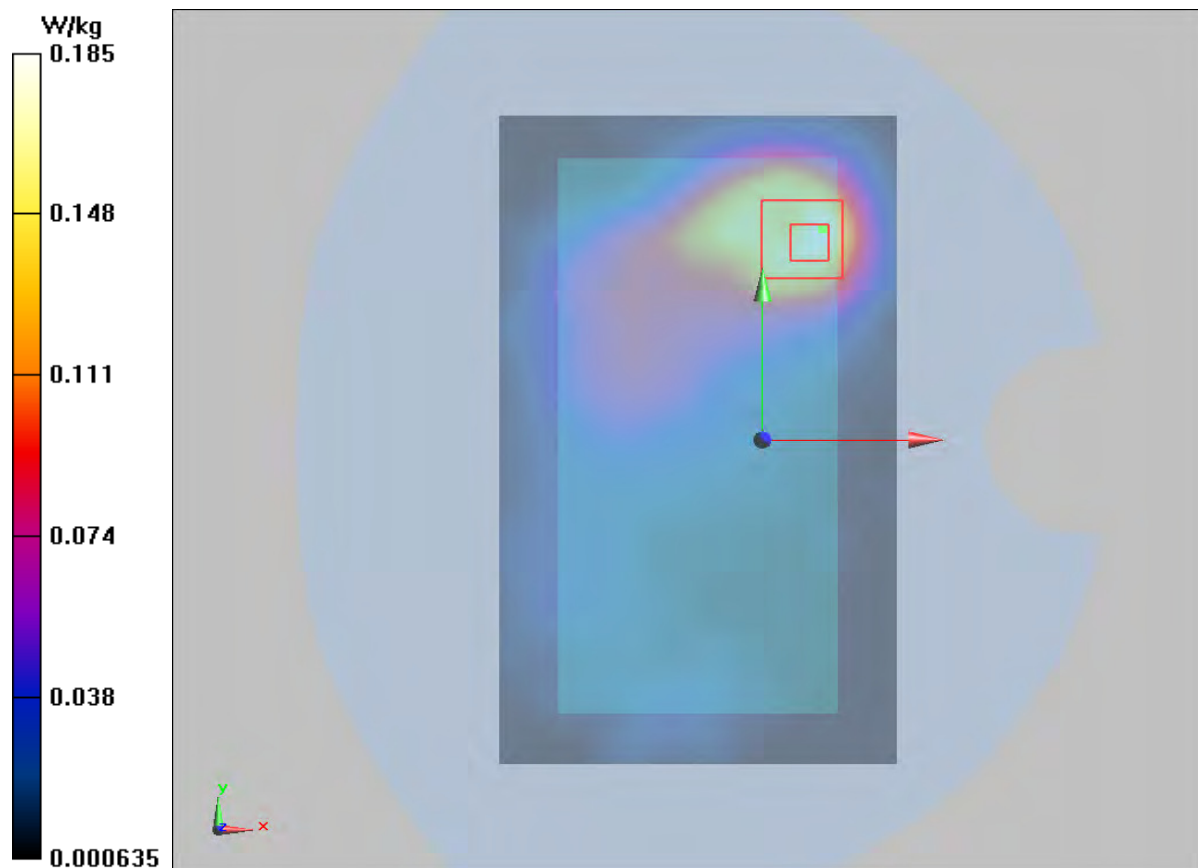
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.520 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.327 W/kg

**SAR(1 g) = 0.172 W/kg; SAR(10 g) = 0.094 W/kg**

Maximum value of SAR (measured) = 0.185 W/kg





# Plot 87 UMTS Band II Left Cheek Middle (Single=REC On+Left Head)

Date: 9/27/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.37$  S/m;  $\epsilon_r = 40.575$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.673 W/kg

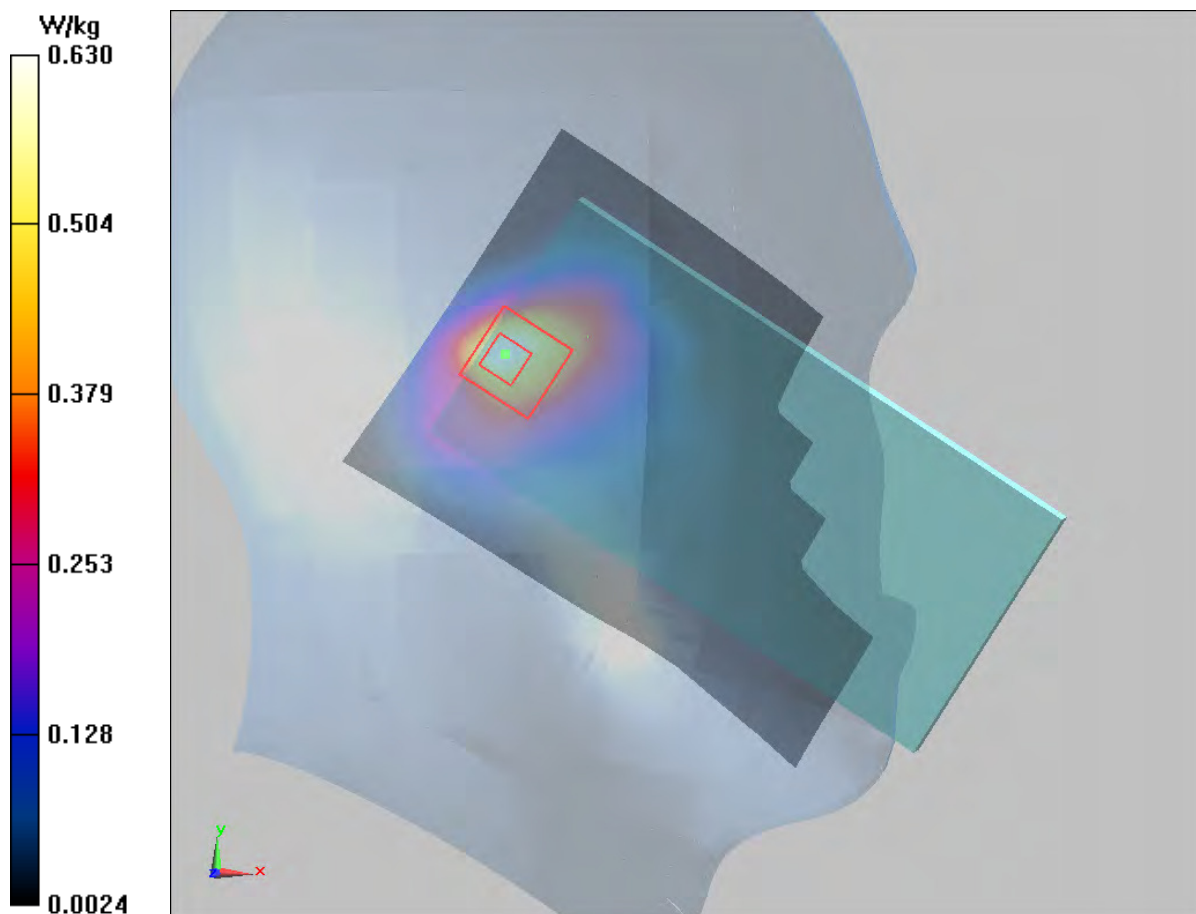
**Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 20.20 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 0.912 W/kg

**SAR(1 g) = 0.560 W/kg; SAR(10 g) = 0.311 W/kg**

Maximum value of SAR (measured) = 0.630 W/kg



# Plot 88 UMTS Band II Back Side Middle (Single=REC Off, Distance 15mm)

Date: 9/22/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.282 W/kg

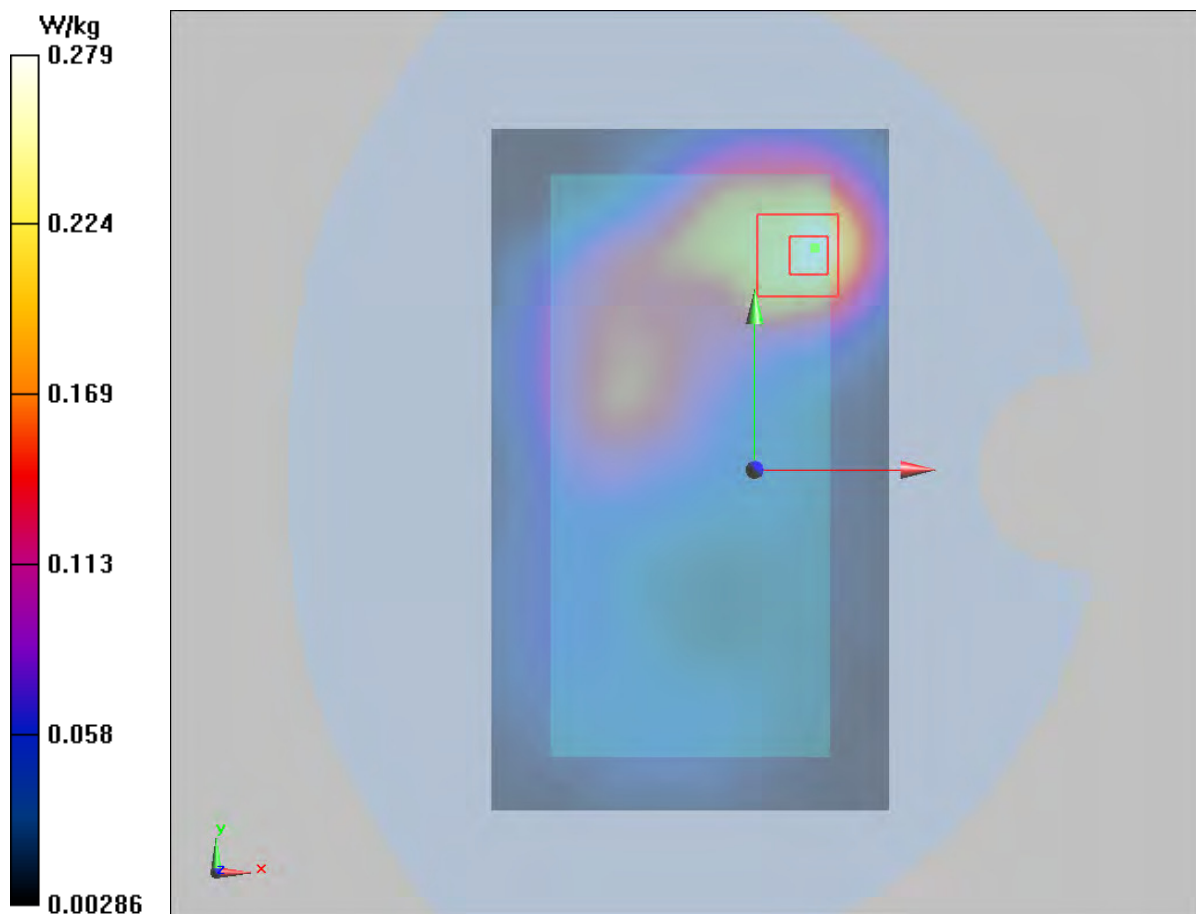
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.622 V/m; Power Drift = 0.10 dB

Peak SAR (extrapolated) = 0.444 W/kg

**SAR(1 g) = 0.253 W/kg; SAR(10 g) = 0.142 W/kg**

Maximum value of SAR (measured) = 0.279 W/kg





# **Plot 89 UMTS Band II Front Side Middle (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/22/2017

Communication System: UID 0, WCDMA II (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880 \text{ MHz}$ ;  $\sigma = 1.49 \text{ S/m}$ ;  $\epsilon_r = 51.207$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.250 W/kg

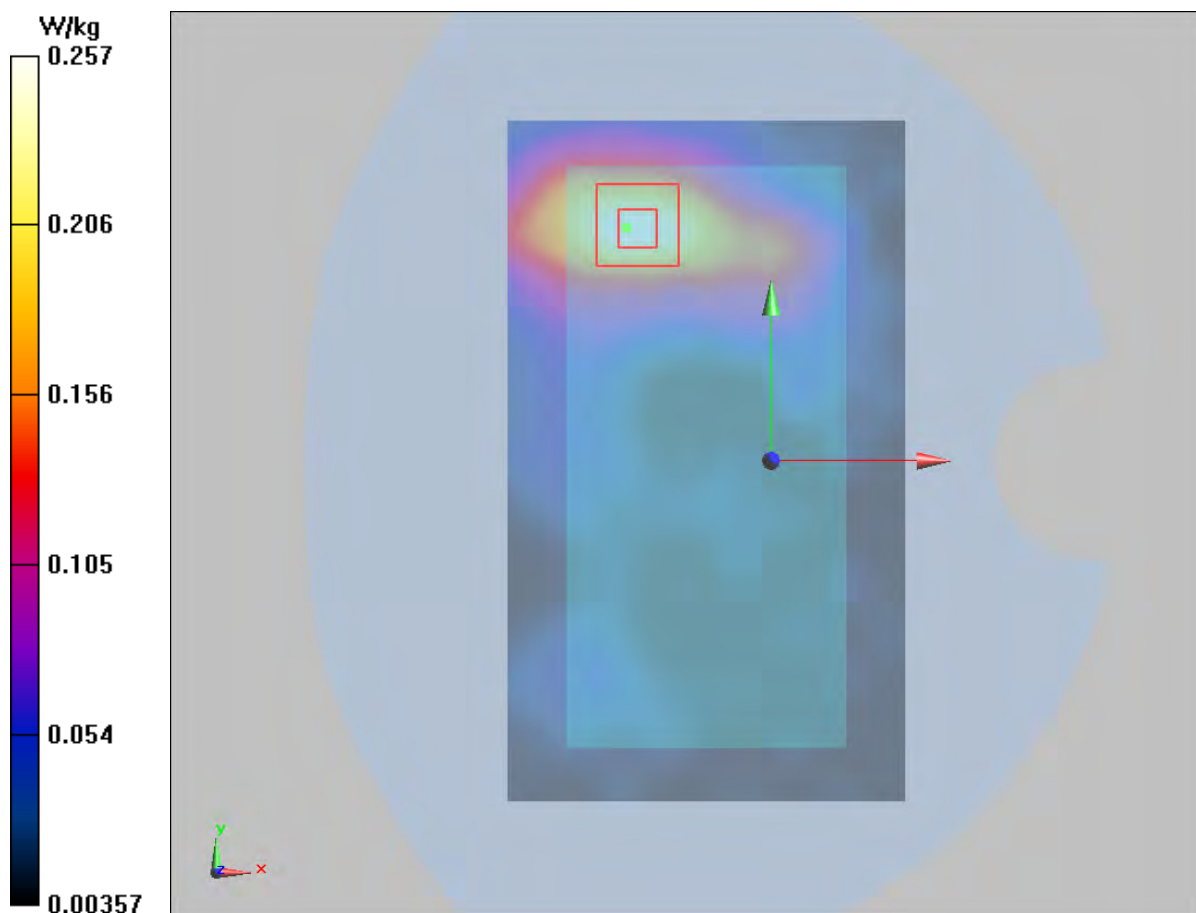
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 3.959 V/m; Power Drift = -0.032 dB

Peak SAR (extrapolated) = 0.439 W/kg

**SAR(1 g) = 0.230 W/kg; SAR(10 g) = 0.121 W/kg**

Maximum value of SAR (measured) = 0.257 W/kg



# Plot 90 UMTS Band IV Right Cheek Middle (Single=REC On+ Right Head, Battery 3)

Date: 9/21/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.351$  S/m;  $\epsilon_r = 38.755$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.60, 8.60, 8.60); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.784 W/kg

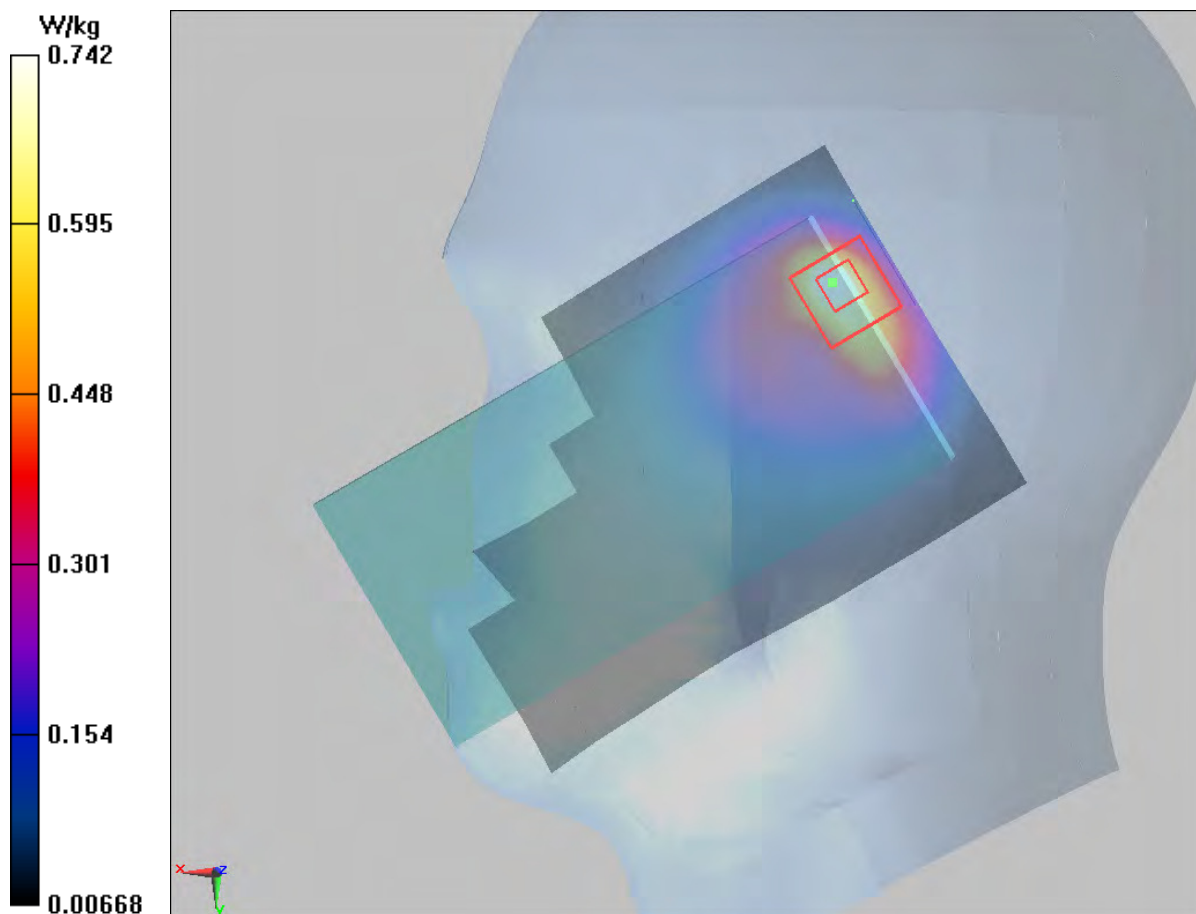
**Right Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.11 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 1.31 W/kg

**SAR(1 g) = 0.612 W/kg; SAR(10 g) = 0.324 W/kg**

Maximum value of SAR (measured) = 0.742 W/kg



# Plot 91 UMTS Band IV Back Side Middle (Single=REC Off, Distance 15mm)

Date: 9/17/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.418$  S/m;  $\epsilon_r = 51.915$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.322 W/kg

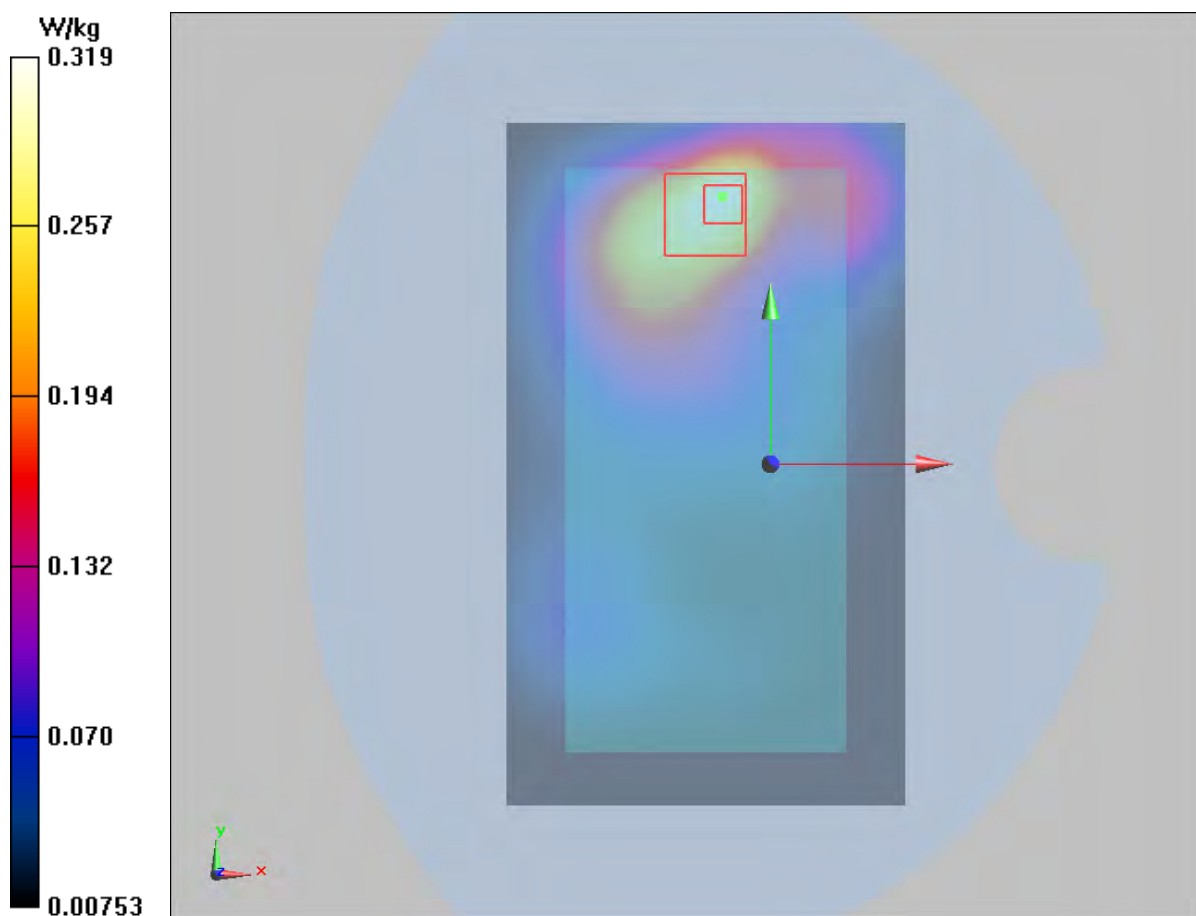
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.796 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.438 W/kg

**SAR(1 g) = 0.292 W/kg; SAR(10 g) = 0.184 W/kg**

Maximum value of SAR (measured) = 0.319 W/kg



# **Plot 92 UMTS Band IV Back Side Middle (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/17/2017

Communication System: UID 0, WCDMA (0); Frequency: 1732.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1733$  MHz;  $\sigma = 1.418$  S/m;  $\epsilon_r = 51.915$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.337 W/kg

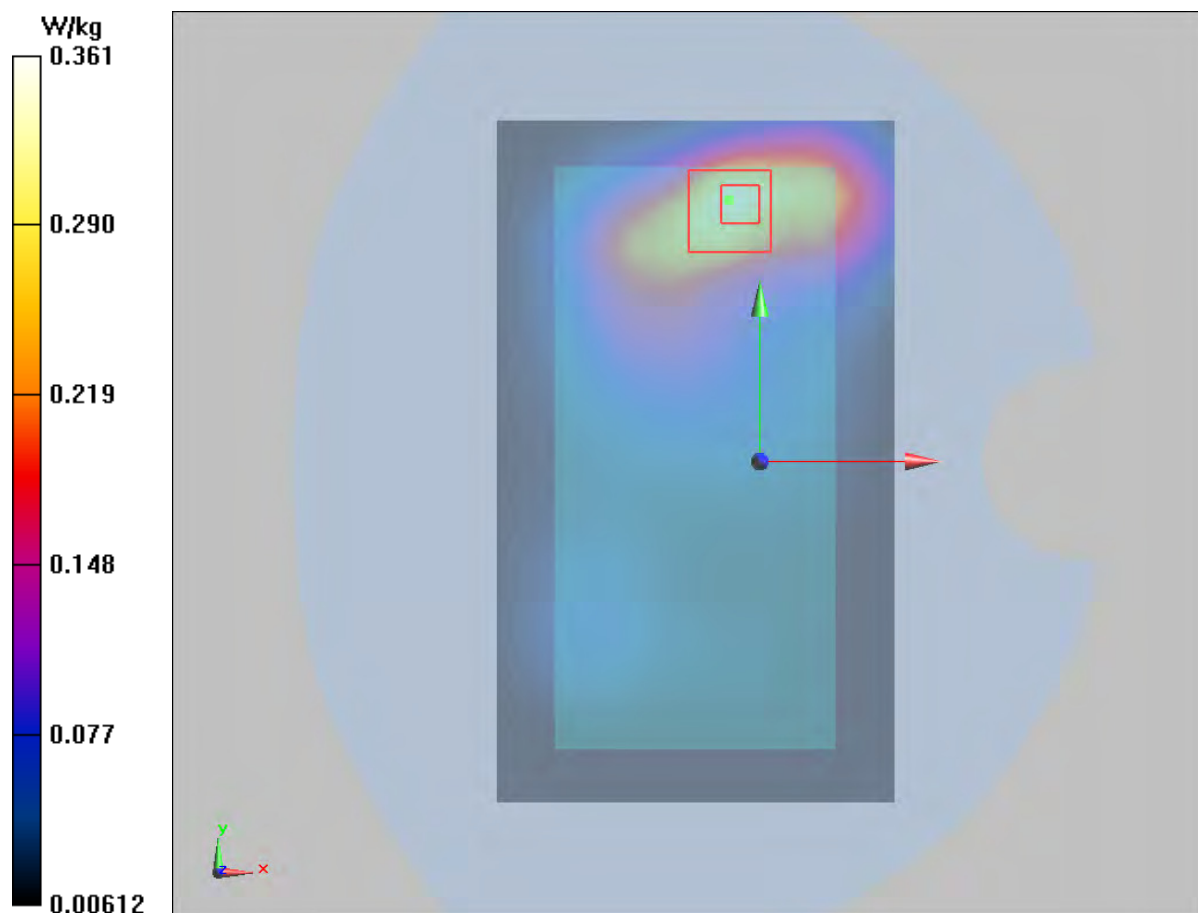
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.522 V/m; Power Drift = 0.021 dB

Peak SAR (extrapolated) = 0.511 W/kg

**SAR(1 g) = 0.332 W/kg; SAR(10 g) = 0.197 W/kg**

Maximum value of SAR (measured) = 0.361 W/kg



# **Plot 93 UMTS Band V Left Cheek Middle (Single=REC On+Left Head, Battery 2)**

Date: 9/16/2017

Communication System: UID 0, WCDMA V (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 0.94$  S/m;  $\epsilon_r = 42.425$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.767 W/kg

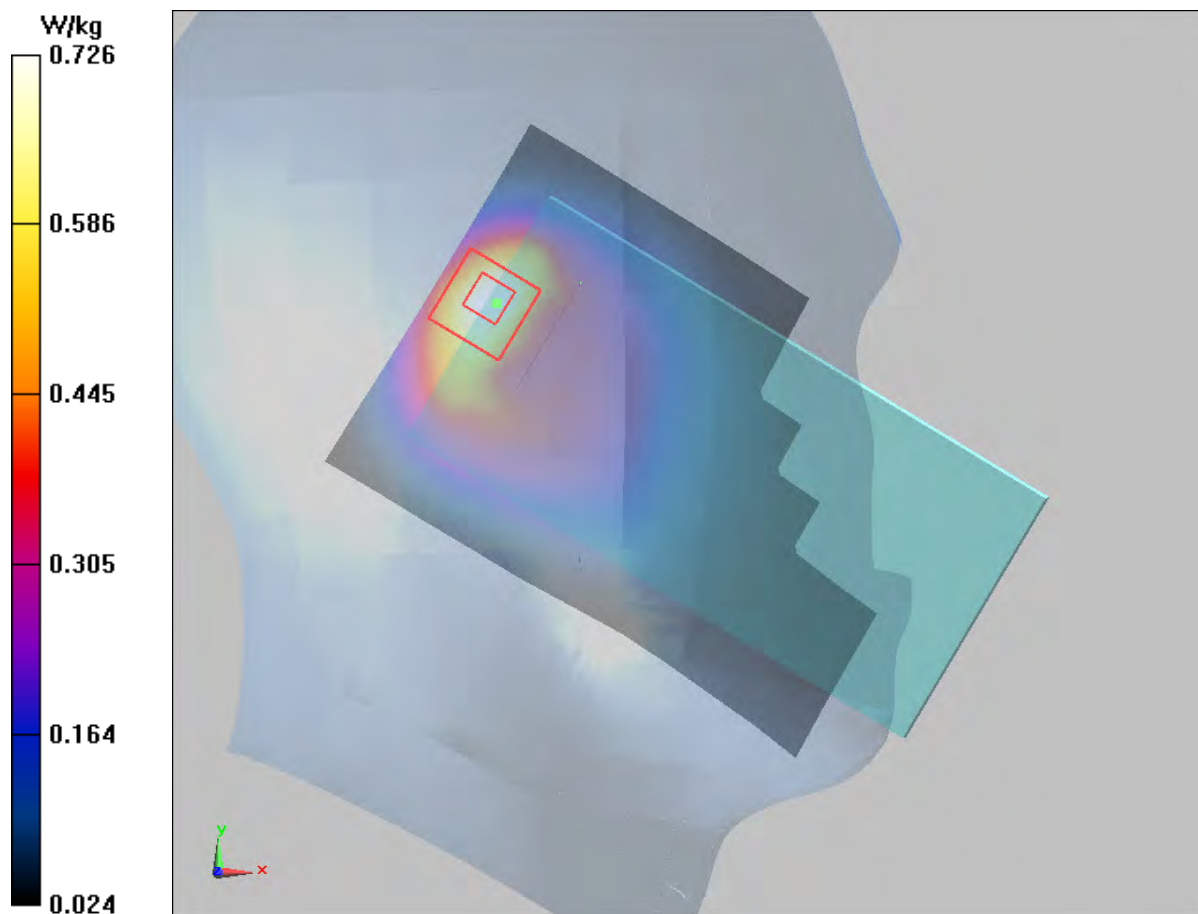
**Left Cheek Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 24.86 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.30 W/kg

**SAR(1 g) = 0.669 W/kg; SAR(10 g) = 0.353 W/kg**

Maximum value of SAR (measured) = 0.726 W/kg



# **Plot 94 UMTS Band V Front Side Middle (Single=REC Off, Distance 15mm)**

Date: 9/18/2017

Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 55.395$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.272 W/kg

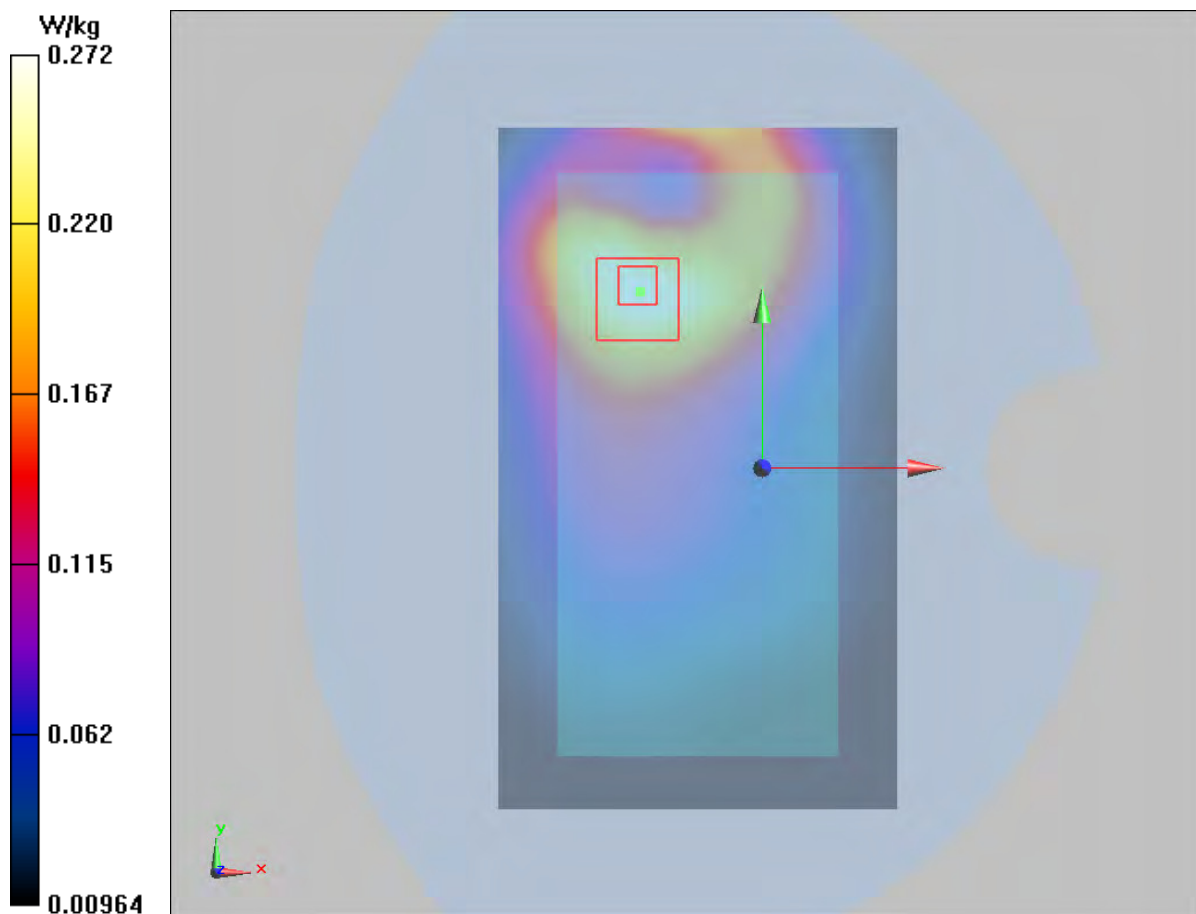
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.644 V/m; Power Drift = 0.11 dB

Peak SAR (extrapolated) = 0.350 W/kg

**SAR(1 g) = 0.257 W/kg; SAR(10 g) = 0.178 W/kg**

Maximum value of SAR (measured) = 0.272 W/kg





# **Plot 95 UMTS Band V Front Side Middle (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/18/2017

Communication System: UID 0, WCDMA (0); Frequency: 836.6 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 837$  MHz;  $\sigma = 1.013$  S/m;  $\epsilon_r = 55.395$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.245 W/kg

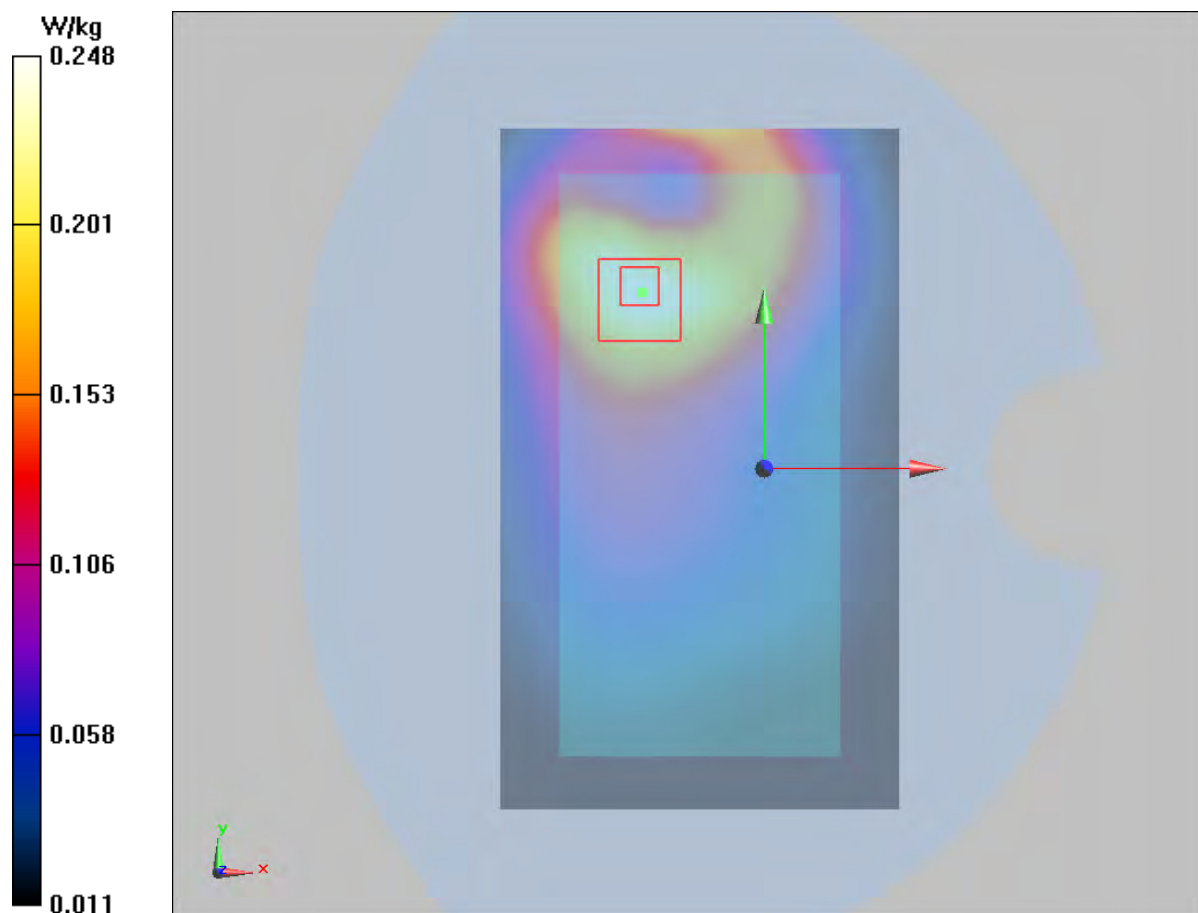
**Front Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.908 V/m; Power Drift = 0.022 dB

Peak SAR (extrapolated) = 0.372 W/kg

**SAR(1 g) = 0.229 W/kg; SAR(10 g) = 0.134 W/kg**

Maximum value of SAR (measured) = 0.248 W/kg



# Plot 96 LTE Band 2 1RB Left Cheek High (Single=REC On+Left Head, Battery 3)

Date: 9/27/2017

Communication System: UID 0, LTE (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.39$  S/m;  $\epsilon_r = 40.508$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(8.59, 8.59, 8.59); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.01 W/kg

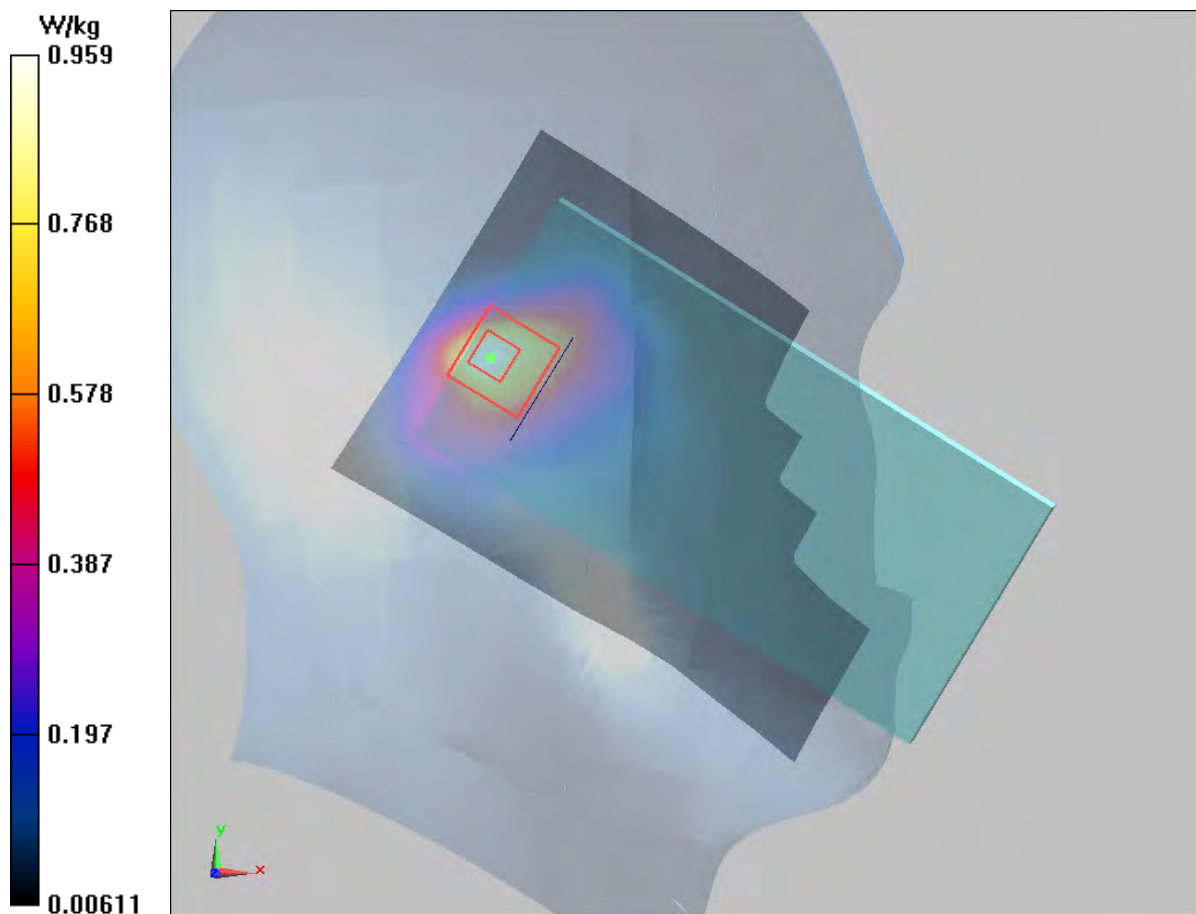
**Left Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.97 V/m; Power Drift = -0.03 dB

Peak SAR (extrapolated) = 1.38 W/kg

**SAR(1 g) = 0.851 W/kg; SAR(10 g) = 0.470 W/kg**

Maximum value of SAR (measured) = 0.959 W/kg





# **Plot 97 LTE Band 2 50%RB Back Side High (Single=REC Off, Distance 15mm)**

Date: 9/22/2017

Communication System: UID 0, LTE (0); Frequency: 1900 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.509$  S/m;  $\epsilon_r = 51.148$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.246 W/kg

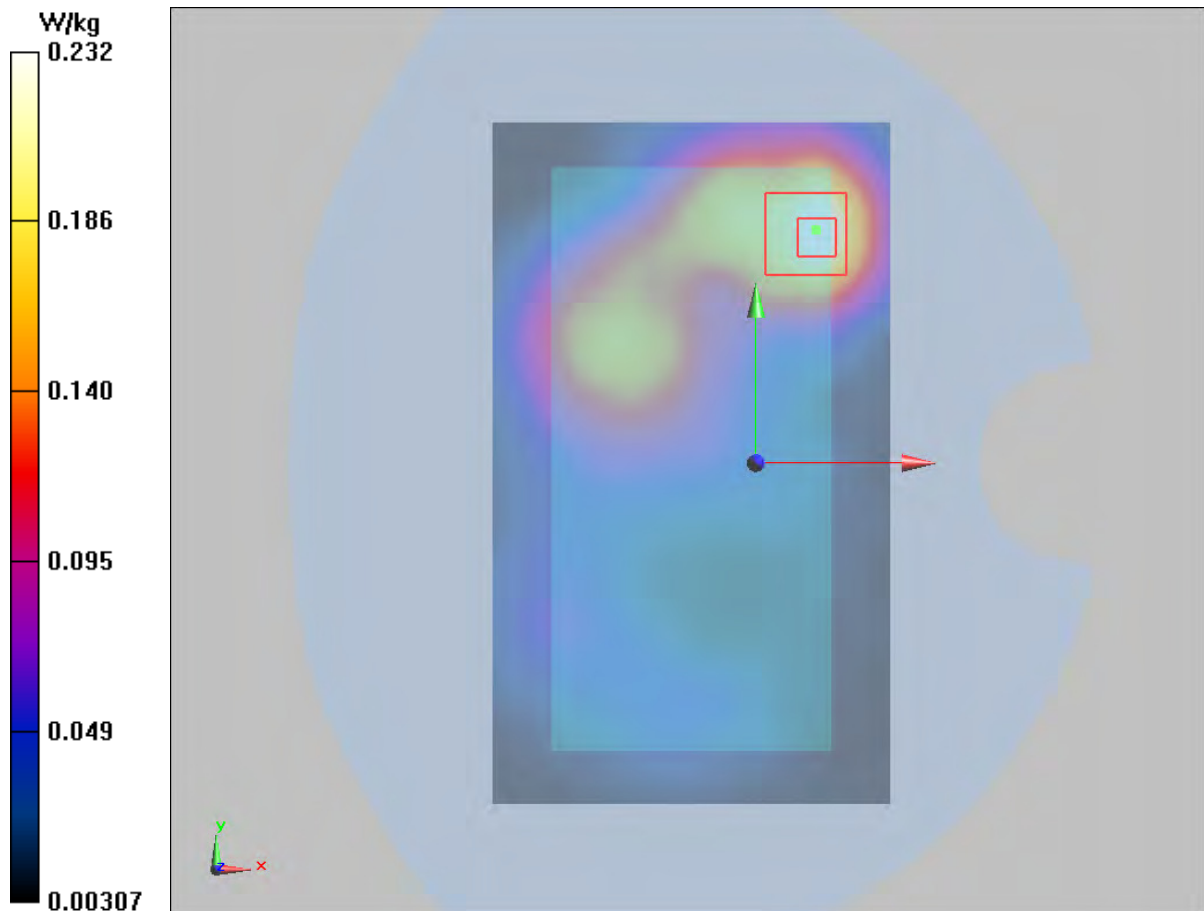
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.482 V/m; Power Drift = -0.13 dB

Peak SAR (extrapolated) = 0.365 W/kg

**SAR(1 g) = 0.212 W/kg; SAR(10 g) = 0.121 W/kg**

Maximum value of SAR (measured) = 0.232 W/kg



# **Plot 98 LTE Band 2 1RB Back Side Middle (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/22/2017

Communication System: UID 0, LTE (0); Frequency: 1880 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1880$  MHz;  $\sigma = 1.49$  S/m;  $\epsilon_r = 51.207$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(8.14, 8.14, 8.14); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.317 W/kg

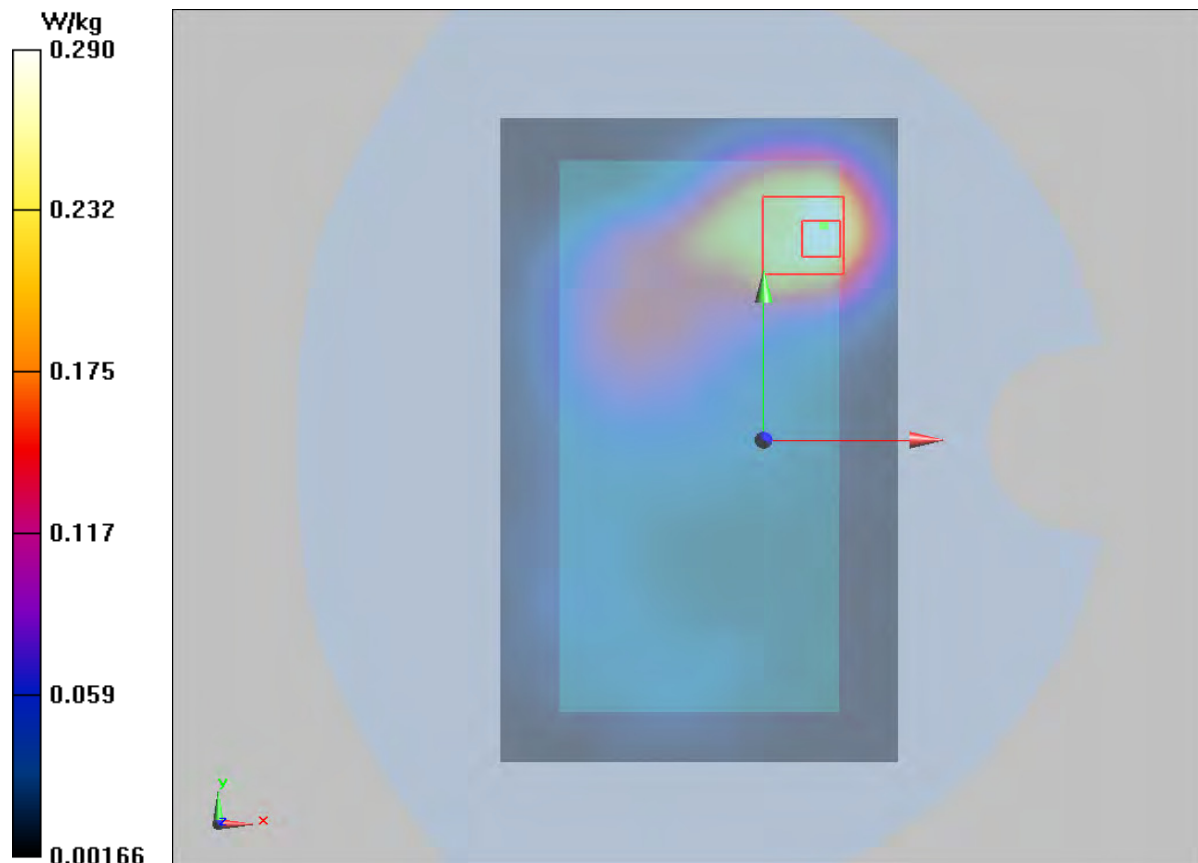
**Back Side Middle/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.496 V/m; Power Drift = -0.14 dB

Peak SAR (extrapolated) = 0.507 W/kg

**SAR(1 g) = 0.268 W/kg; SAR(10 g) = 0.146 W/kg**

Maximum value of SAR (measured) = 0.290 W/kg



# Plot 99 LTE Band 4 50%RB Left Cheek Low (Single=REC On+Left Head, Battery 3)

Date: 9/21/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1720 MHz;Duty Cycle: 1:1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.336$  S/m;  $\epsilon_r = 38.677$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.60, 8.60, 8.60); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.564 W/kg

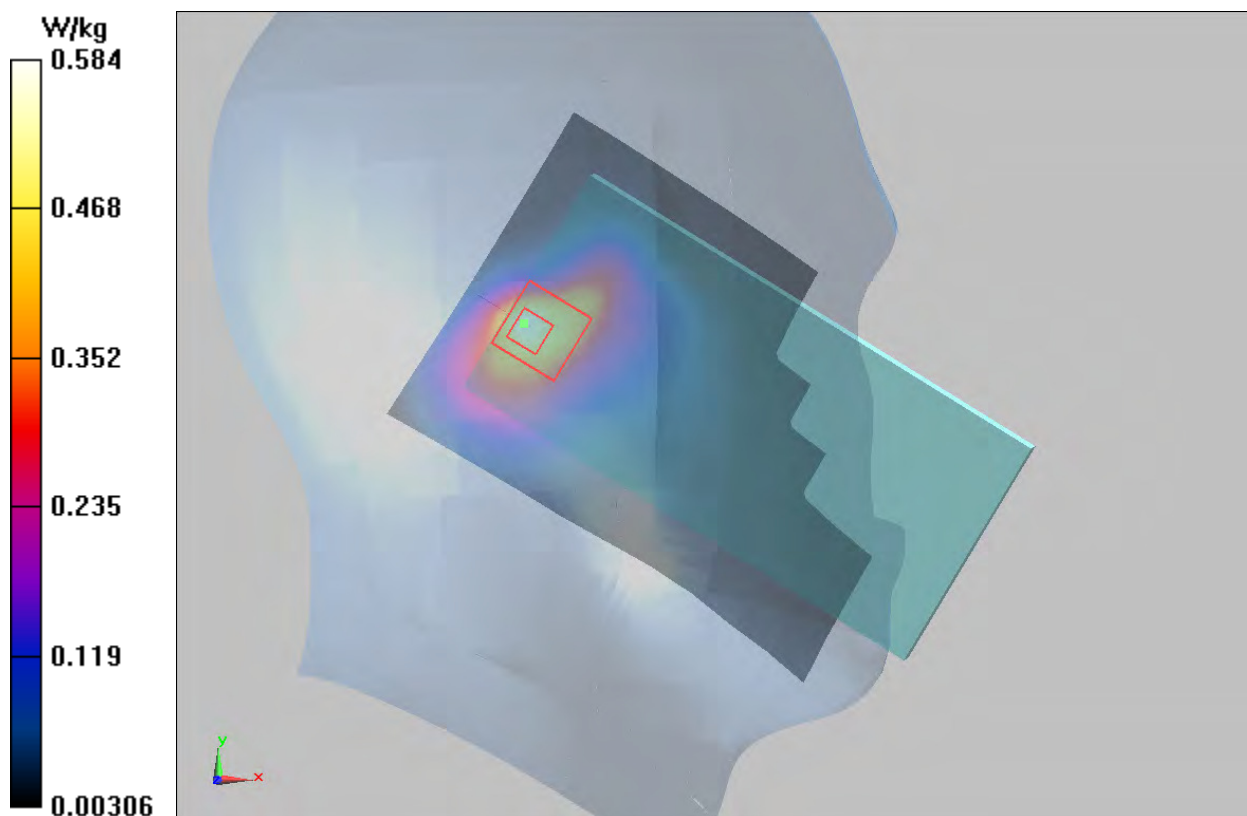
**Left Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 15.21 V/m; Power Drift = -0.021 dB

Peak SAR (extrapolated) = 0.892 W/kg

**SAR(1 g) = 0.539 W/kg; SAR(10 g) = 0.294 W/kg**

Maximum value of SAR (measured) = 0.584 W/kg



# Plot 100 LTE Band 4 50%RB Back Side Low (Single=REC Off, Distance 15mm)

Date: 9/17/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1720 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.406$  S/m;  $\epsilon_r = 51.959$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.199 W/kg

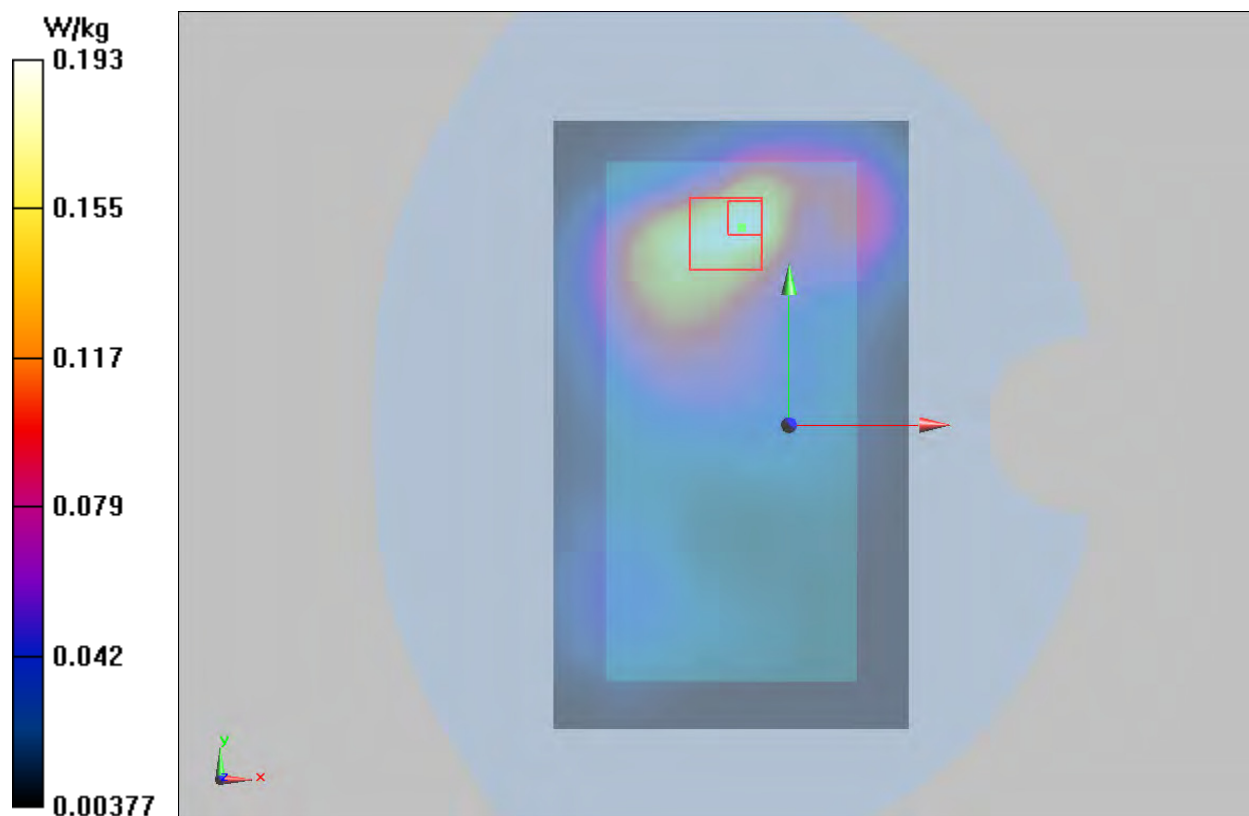
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 5.524 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 0.274 W/kg

**SAR(1 g) = 0.180 W/kg; SAR(10 g) = 0.112 W/kg**

Maximum value of SAR (measured) = 0.193 W/kg



# **Plot 101 LTE Band 4 50%RB Back Side Low (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/17/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 1720 MHz;Duty Cycle: 1:1

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.406$  S/m;  $\epsilon_r = 51.959$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(8.39, 8.39, 8.39); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.221 W/kg

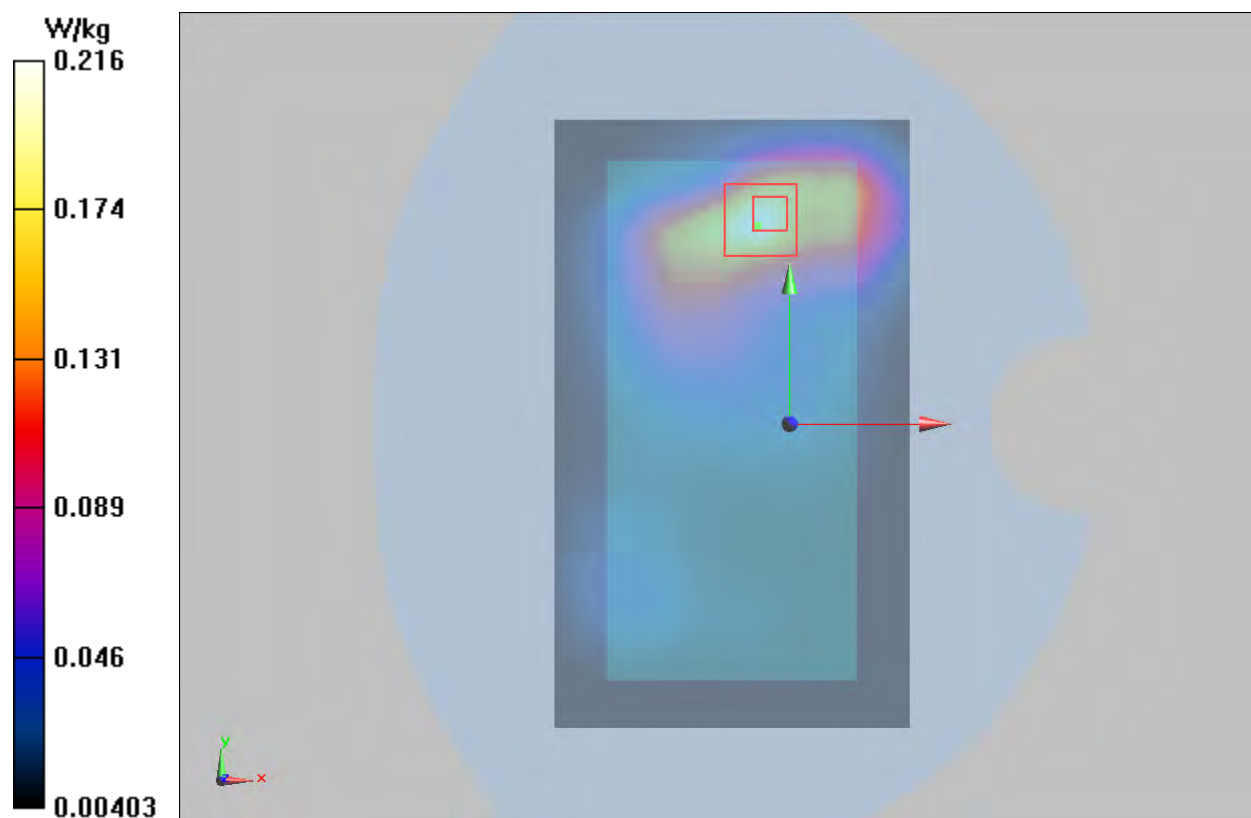
**Back Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.939 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.325 W/kg

**SAR(1 g) = 0.209 W/kg; SAR(10 g) = 0.121 W/kg**

Maximum value of SAR (measured) = 0.216 W/kg



# Plot 102 LTE Band 5 50%RB Right Cheek High (Single=REC On+ Right Head)

Date: 9/16/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 844 MHz;Duty Cycle: 1:1

Medium parameters used:  $f = 844$  MHz;  $\sigma = 0.946$  S/m;  $\epsilon_r = 42.338$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C Liquid Temperature: 21.5°C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.811 W/kg

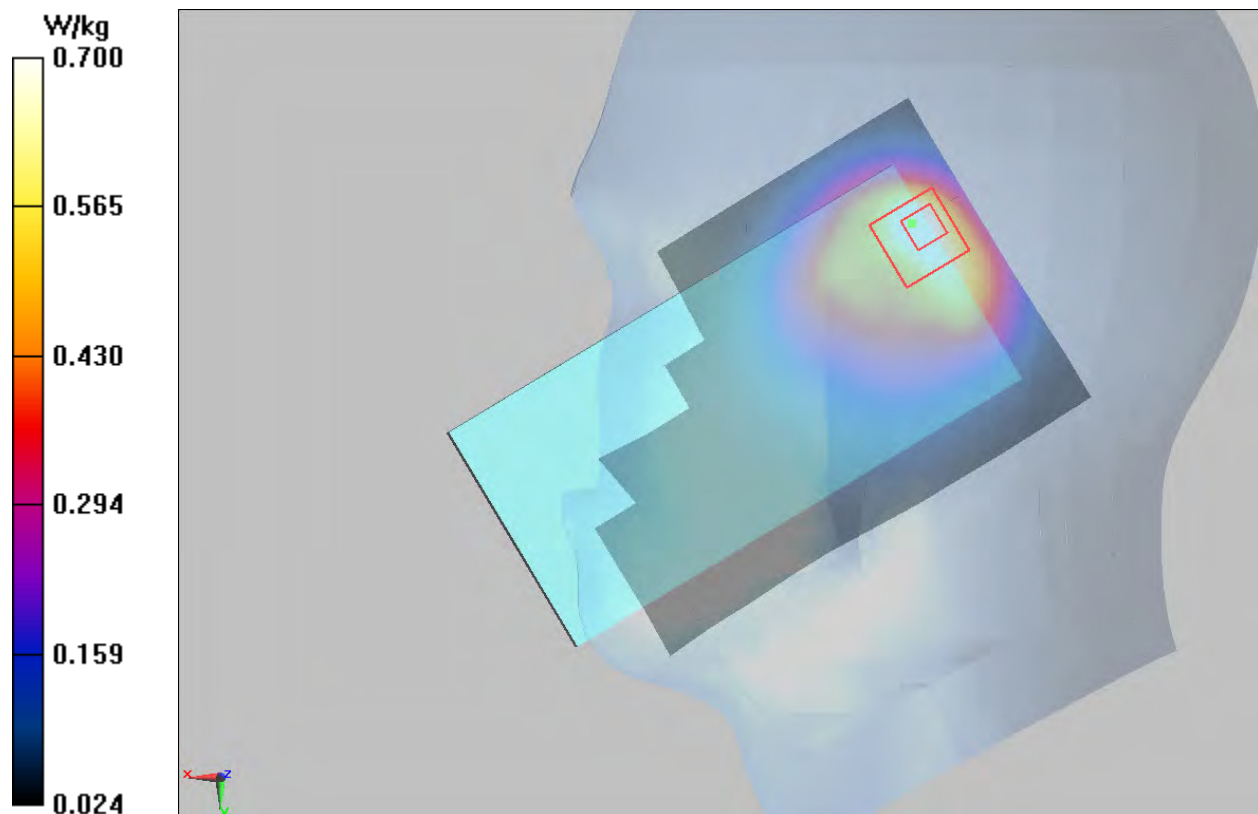
**Right Cheek High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.52 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 1.34 W/kg

**SAR(1 g) = 0.643 W/kg; SAR(10 g) = 0.355 W/kg**

Maximum value of SAR (measured) = 0.700 W/kg





# **Plot 103 LTE Band 5 1RB Front Side High (Single=REC Off, Distance 15mm)**

Date: 9/18/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 844 MHz;Duty Cycle: 1:1

Medium parameters used:  $f = 844$  MHz;  $\sigma = 1.021$  S/m;  $\epsilon_r = 55.319$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.240 W/kg

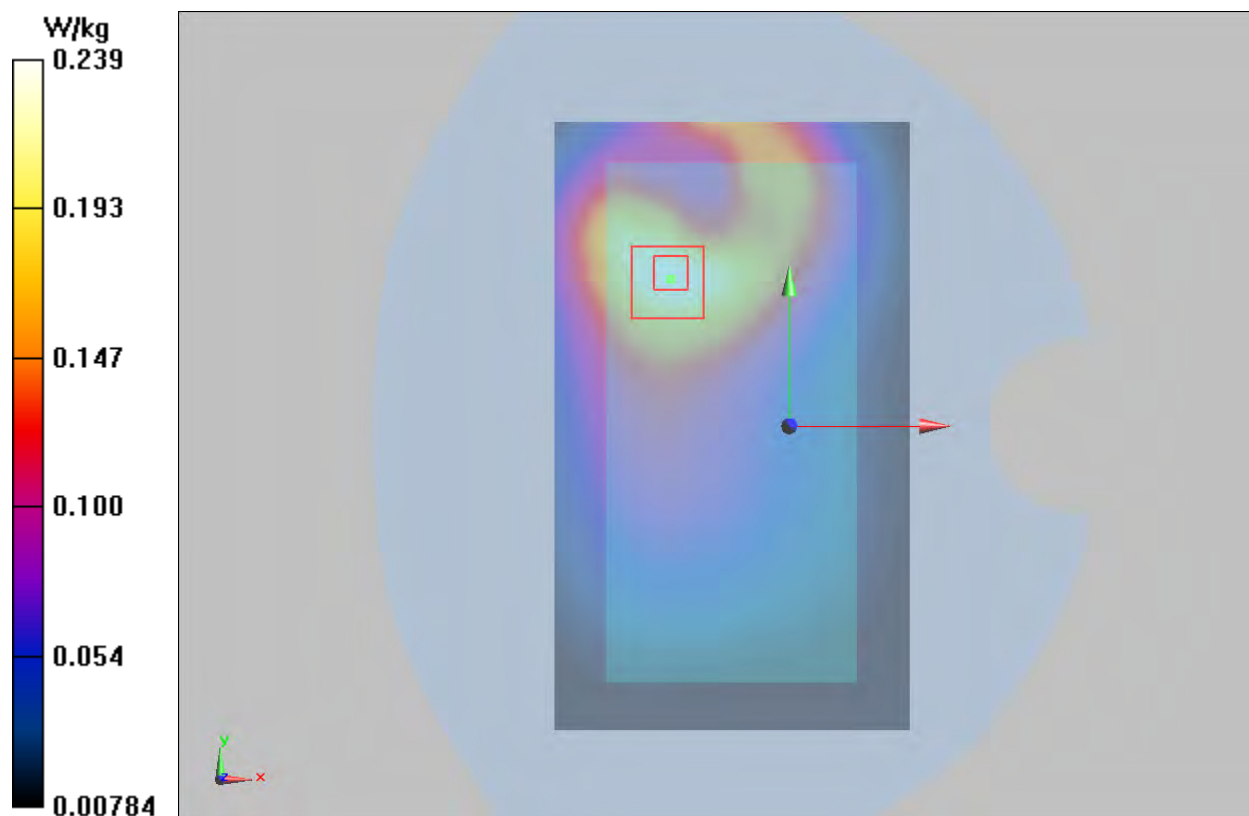
**Front Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.181 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.304 W/kg

**SAR(1 g) = 0.225 W/kg; SAR(10 g) = 0.156 W/kg**

Maximum value of SAR (measured) = 0.239 W/kg



# **Plot 104 LTE Band 5 1RB Front Side High (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/18/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 844 MHz;Duty Cycle: 1:1

Medium parameters used:  $f = 844$  MHz;  $\sigma = 1.021$  S/m;  $\epsilon_r = 55.319$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C      Liquid Temperature: 21.5°C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.222 W/kg

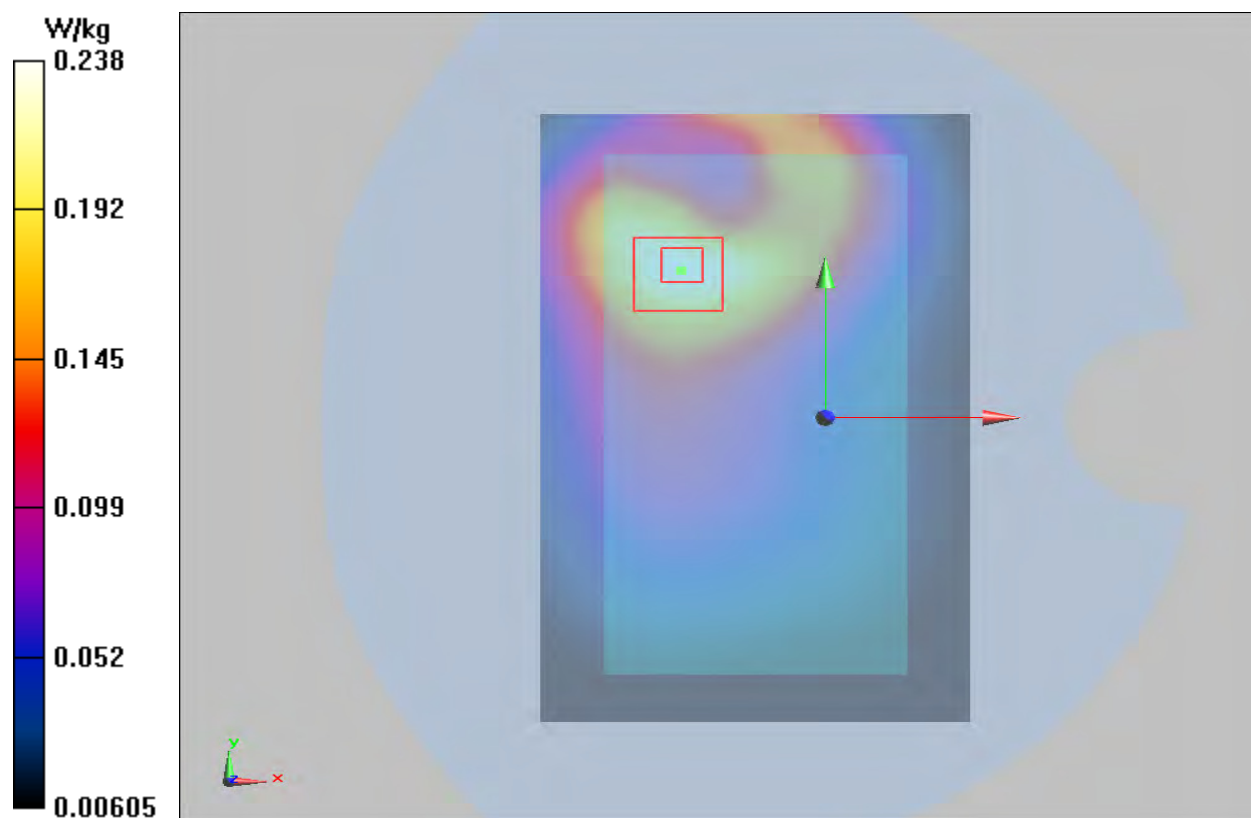
**Front Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.099 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.358 W/kg

**SAR(1 g) = 0.219 W/kg; SAR(10 g) = 0.127 W/kg**

Maximum value of SAR (measured) = 0.238 W/kg





# **Plot 105 LTE Band 7 50%RB Right Cheek Low (Single=REC On+ Right Head)**

Date: 9/17/2017

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 1.91$  S/m;  $\epsilon_r = 40.624$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low /Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.808 W/kg

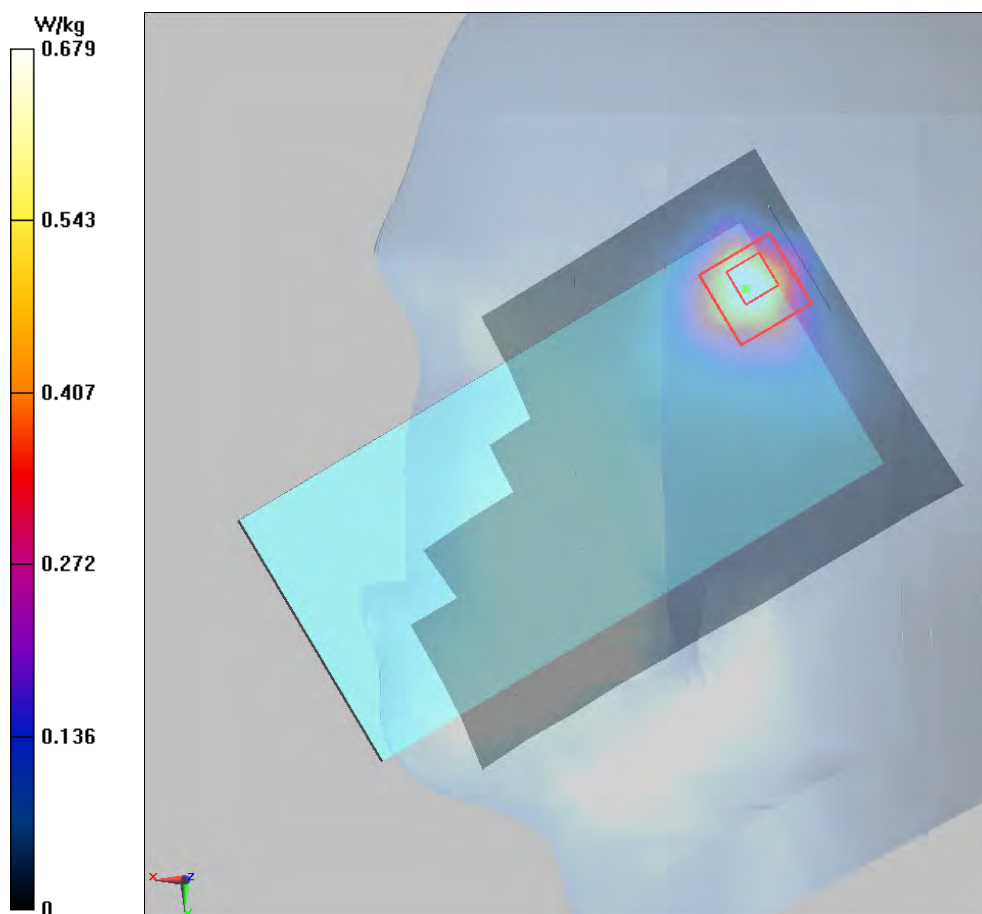
**Right Cheek Low /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.83 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 1.94 W/kg

**SAR(1 g) = 0.636 W/kg; SAR(10 g) = 0.270 W/kg**

Maximum value of SAR (measured) = 0.679 W/kg



# Plot 106 LTE Band 7 1RB Front Side Low (Single=REC Off, Distance 15mm)

Date: 9/19/2017

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 51.469$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Low/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.130 W/kg

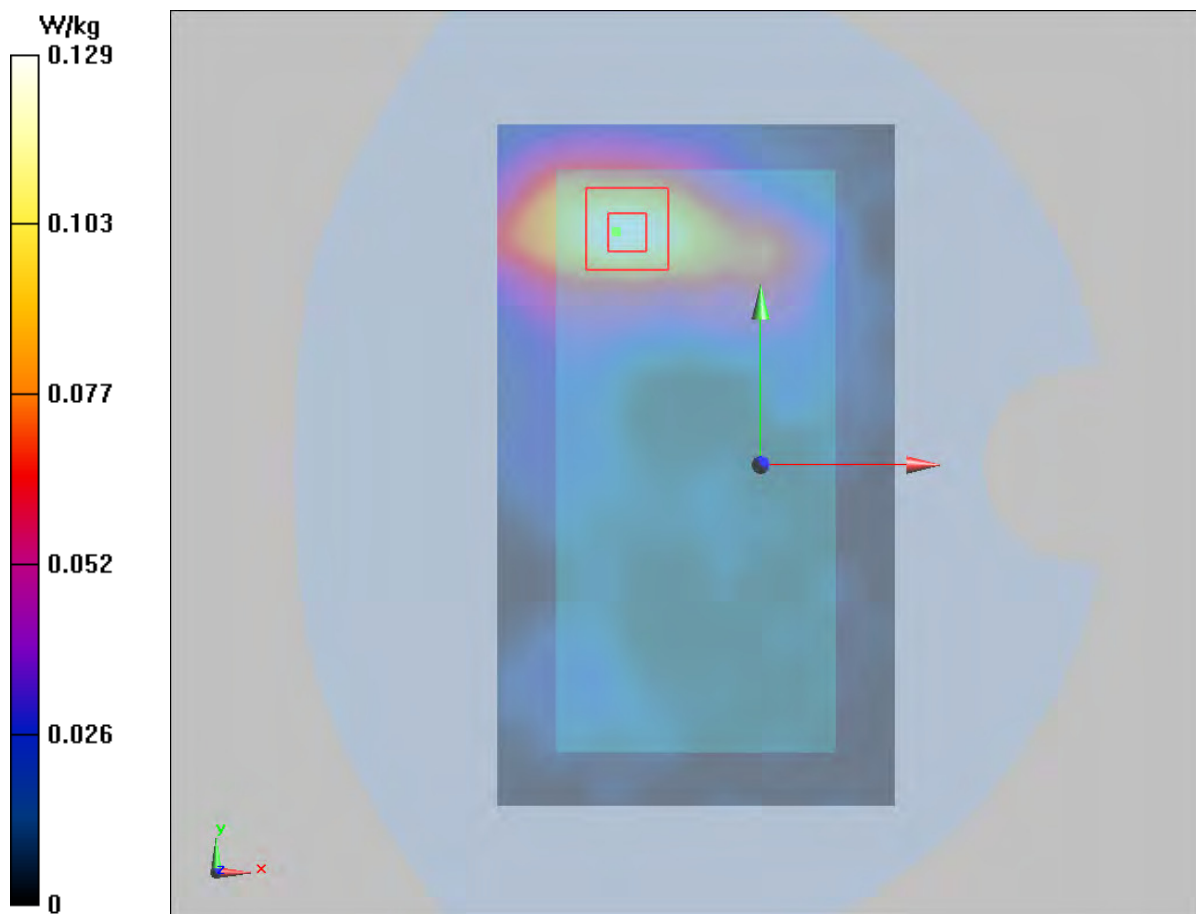
**Front Side Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.356 V/m; Power Drift = -0.060 dB

Peak SAR (extrapolated) = 0.222 W/kg

**SAR(1 g) = 0.117 W/kg; SAR(10 g) = 0.062 W/kg**

Maximum value of SAR (measured) = 0.129 W/kg



# **Plot 107 LTE Band 7 50%RB Top Edge Low (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/19/2017

Communication System: UID 0, LTE (0); Frequency: 2510 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2510$  MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 51.469$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Top Edge Low/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.151 W/kg

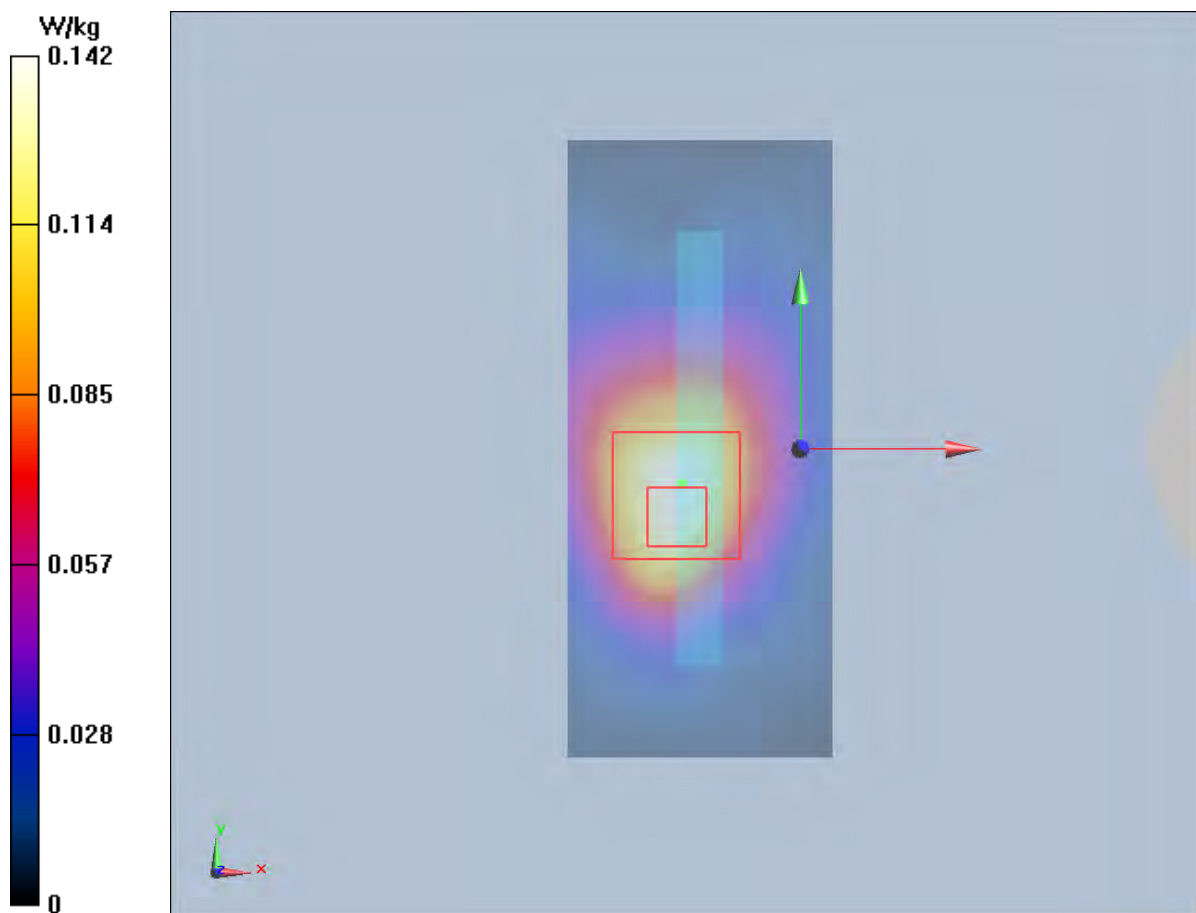
**Top Edge Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.175 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.246 W/kg

**SAR(1 g) = 0.131 W/kg; SAR(10 g) = 0.064 W/kg**

Maximum value of SAR (measured) = 0.142 W/kg



# Plot 108 LTE Band 12 1RB Right Tilt High (Single=REC On+ Right Head)

Date: 9/20/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 711 \text{ MHz}$ ;  $\sigma = 0.862 \text{ S/m}$ ;  $\epsilon_r = 41.621$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.58, 9.58, 9.58); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Tilt High/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.793 W/kg

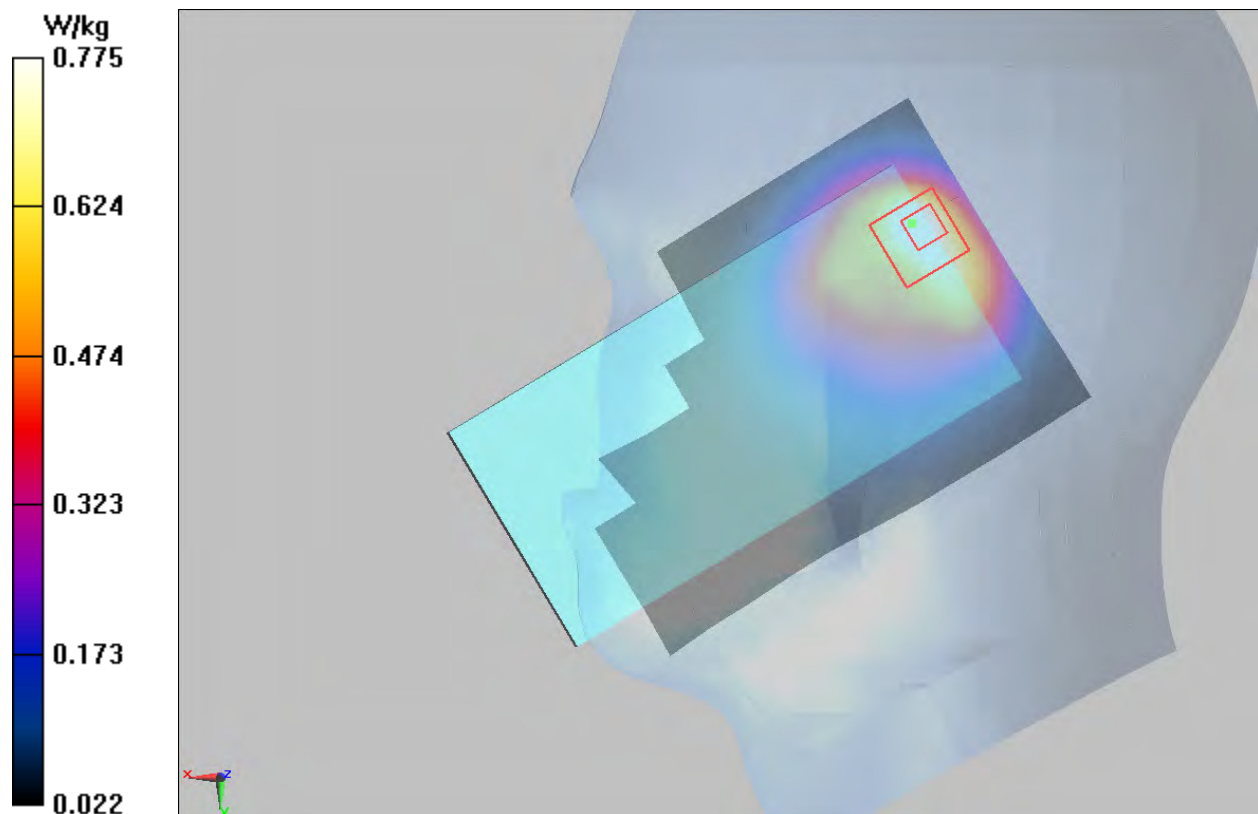
**Right Tilt High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 21.88 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.78 W/kg

**SAR(1 g) = 0.688 W/kg; SAR(10 g) = 0.347 W/kg**

Maximum value of SAR (measured) = 0.775 W/kg



# Plot 109 LTE Band 12 1RB Back Side High (Single=REC Off, Distance 15mm)

Date: 9/19/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 711$  MHz;  $\sigma = 0.927$  S/m;  $\epsilon_r = 55.371$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.177 W/kg

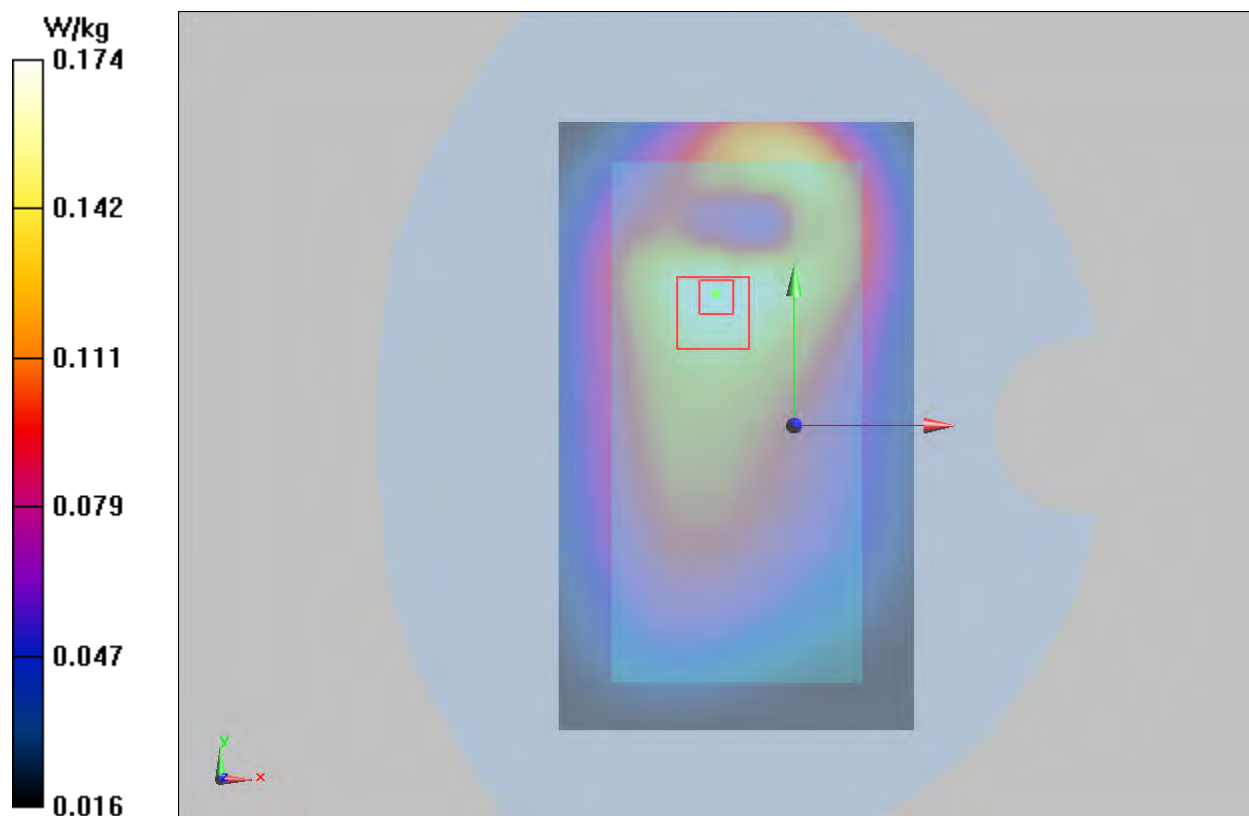
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.57 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.204 W/kg

**SAR(1 g) = 0.166 W/kg; SAR(10 g) = 0.128 W/kg**

Maximum value of SAR (measured) = 0.174 W/kg



# **Plot 110 LTE Band 12 1RB Back Side High (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/19/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 711 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 711 \text{ MHz}$ ;  $\sigma = 0.927 \text{ S/m}$ ;  $\epsilon_r = 55.371$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (71x121x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) = 0.240 W/kg

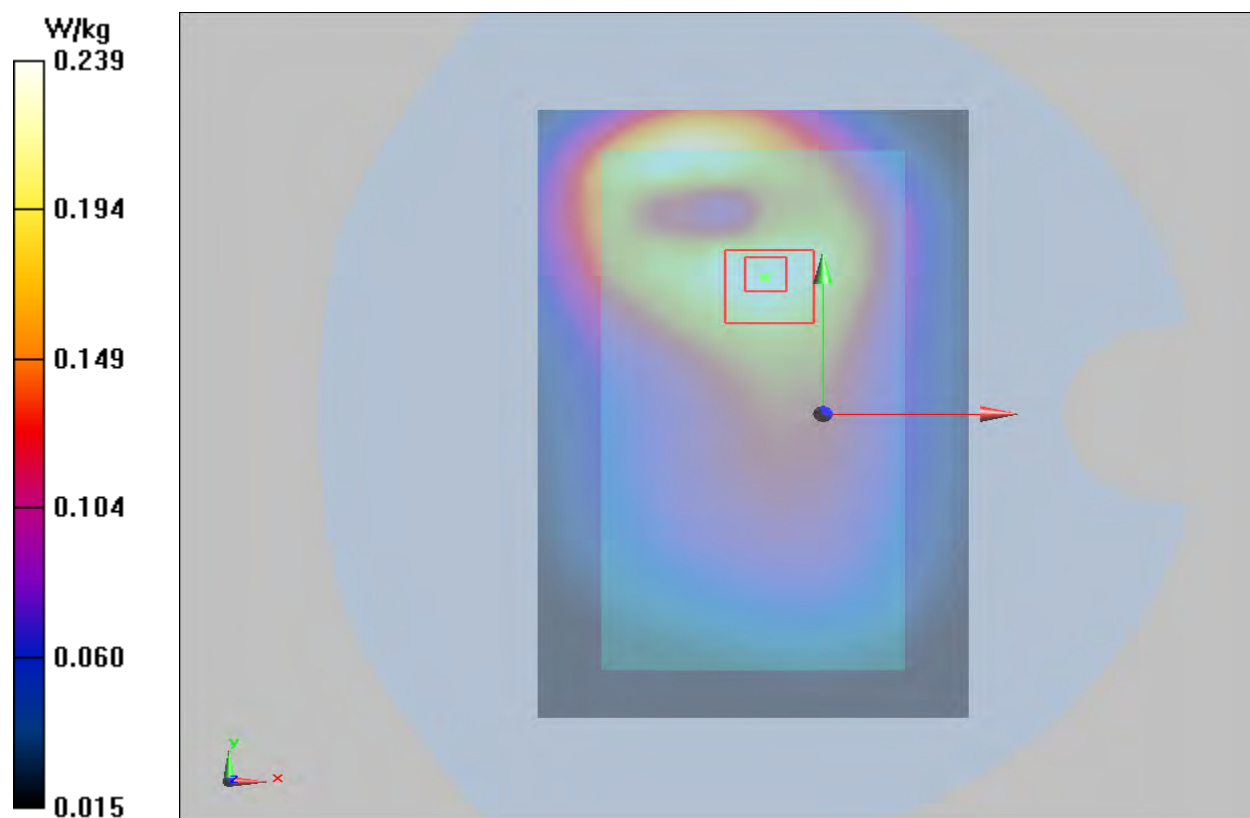
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value = 11.57 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 0.301 W/kg

**SAR(1 g) = 0.226 W/kg; SAR(10 g) = 0.164 W/kg**

Maximum value of SAR (measured) = 0.239 W/kg





# Plot 111 LTE Band 17 1RB Left Cheek Low (Single=REC On+Left Head)

Date: 9/20/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 709 MHz;Duty Cycle: 1:1

Medium parameters used:  $f = 709$  MHz;  $\sigma = 0.86$  S/m;  $\epsilon_r = 41.64$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature:22.3 °C Liquid Temperature: 21.5°C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.58, 9.58, 9.58); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.648 W/kg

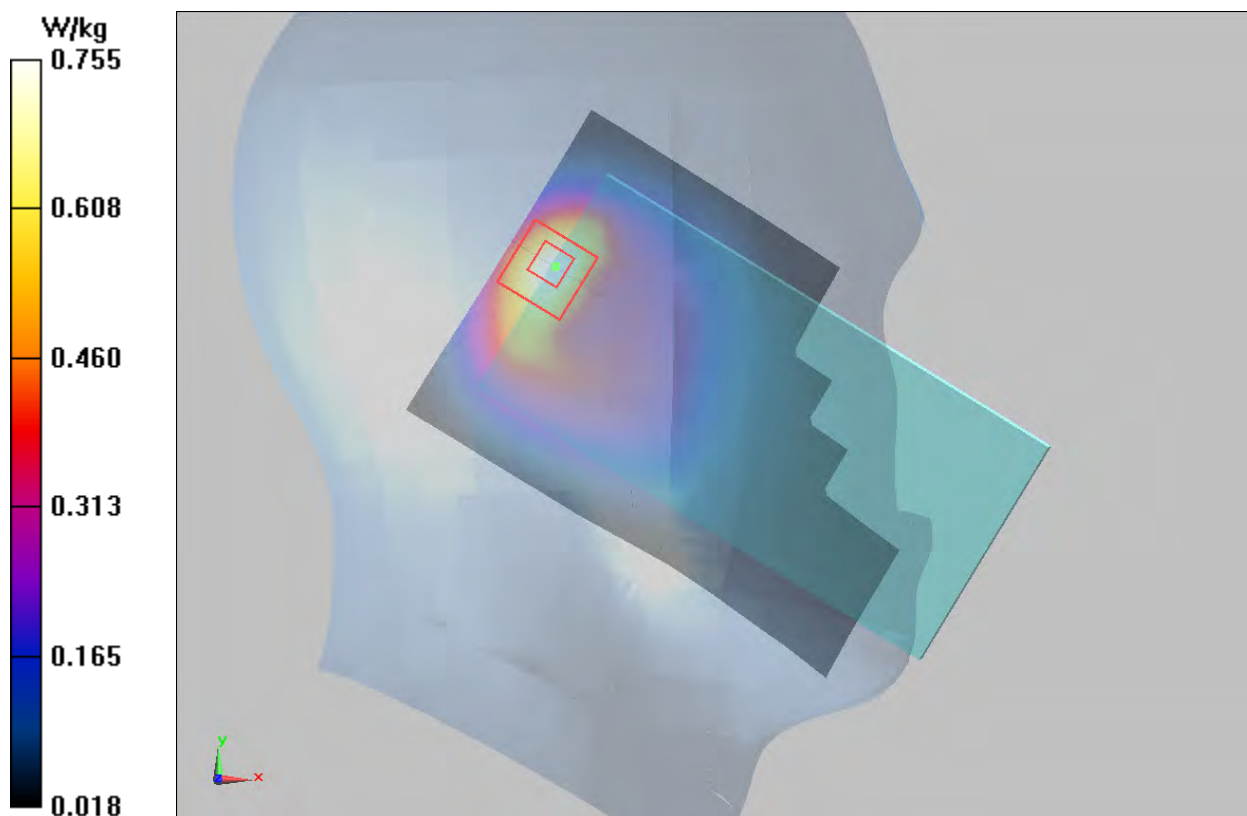
**Left Cheek Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 23.60 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 1.42 W/kg

**SAR(1 g) = 0.683 W/kg; SAR(10 g) = 0.350 W/kg**

Maximum value of SAR (measured) = 0.755 W/kg



# Plot 112 LTE Band 17 1RB Front Side Low (Single=REC Off, Distance 15mm)

Date: 9/19/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709$  MHz;  $\sigma = 0.925$  S/m;  $\epsilon_r = 55.396$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Low/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.130 W/kg

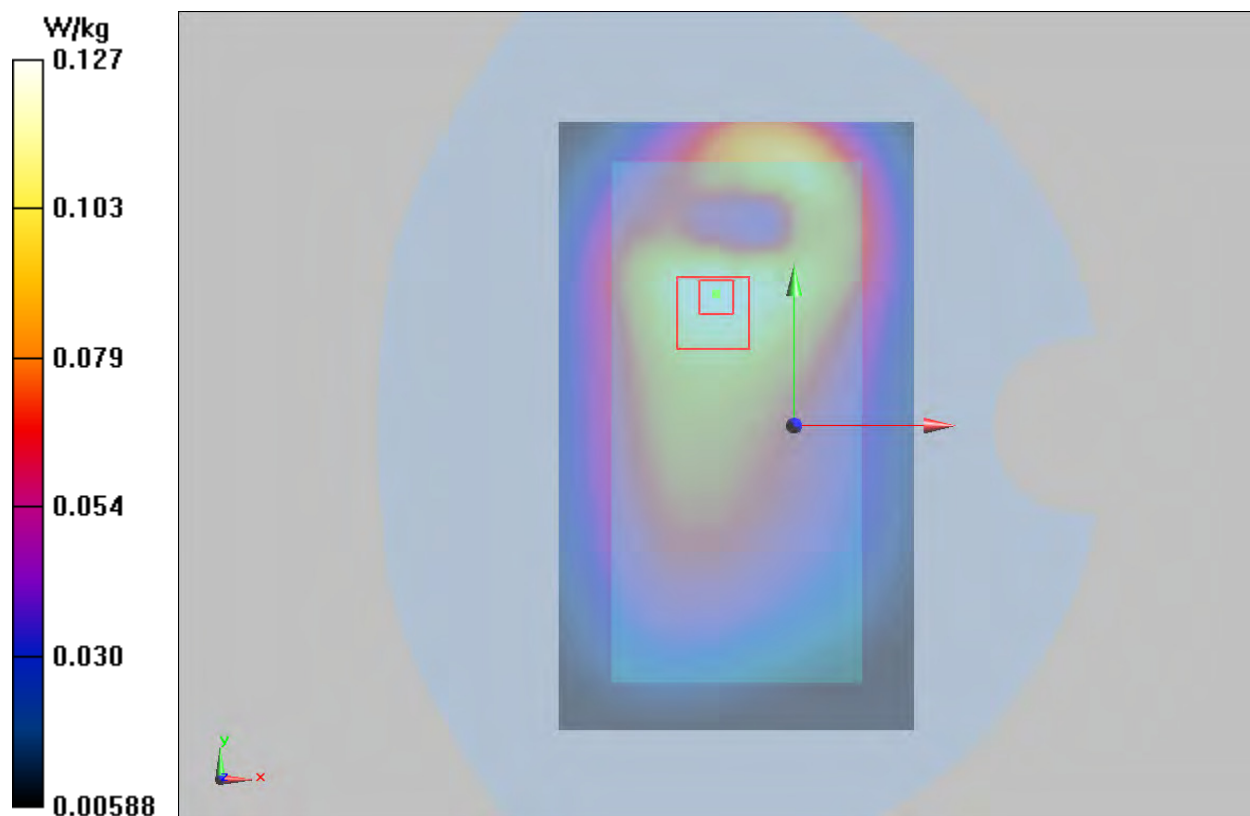
**Front Side Low/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.477 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.156 W/kg

**SAR(1 g) = 0.120 W/kg; SAR(10 g) = 0.088 W/kg**

Maximum value of SAR (measured) = 0.127 W/kg





# **Plot 113 LTE Band 17 1RB Left Edge Low (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/19/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 709 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 709 \text{ MHz}$ ;  $\sigma = 0.925 \text{ S/m}$ ;  $\epsilon_r = 55.396$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$       Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.99, 9.99, 9.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Edge Low/Area Scan (51x181x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.198 \text{ W/kg}$

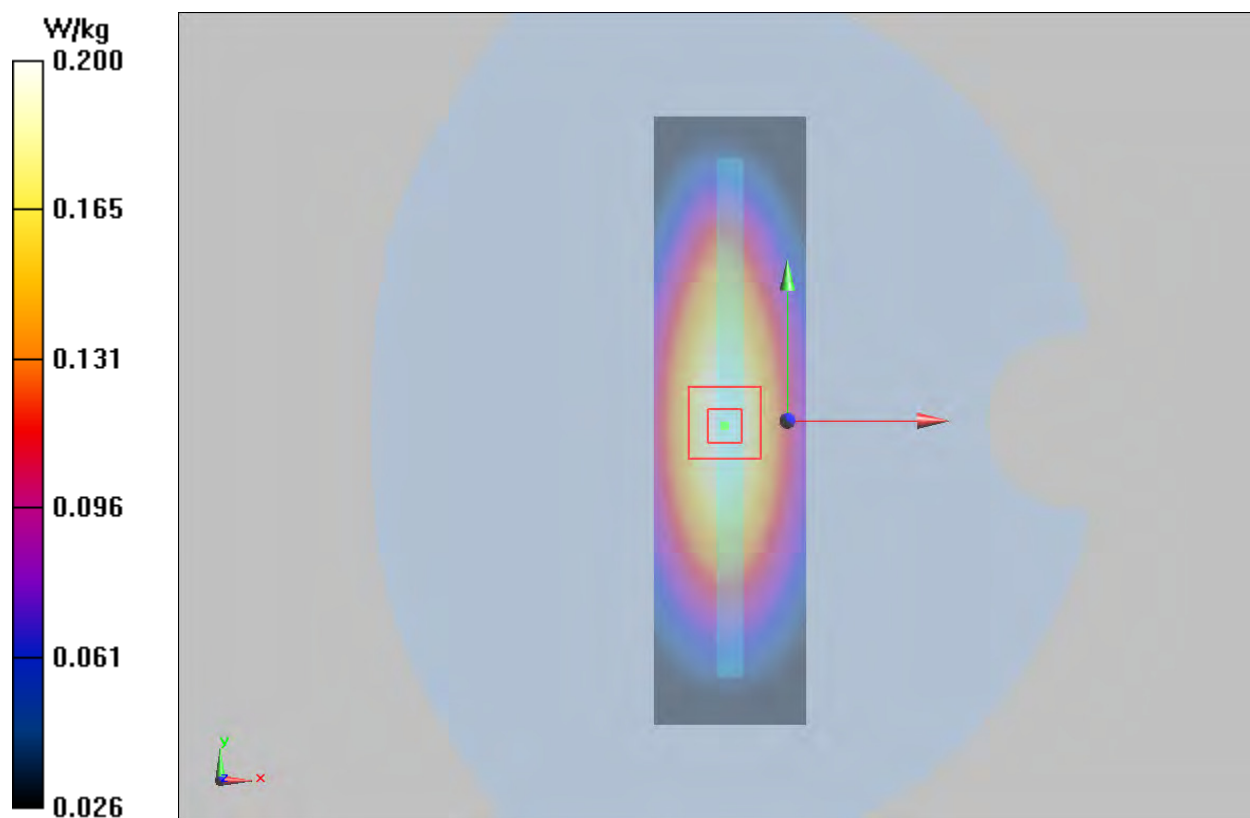
**Left Edge Low/Zoom Scan (7x7x7)/Cube 0:** Measurement grid:  $dx=5\text{mm}$ ,  $dy=5\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $14.89 \text{ V/m}$ ; Power Drift =  $-0.00 \text{ dB}$

Peak SAR (extrapolated) =  $0.258 \text{ W/kg}$

**SAR(1 g) =  $0.187 \text{ W/kg}$ ; SAR(10 g) =  $0.130 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.200 \text{ W/kg}$



# Plot 114 LTE Band 26 50%RB Right Tilt High (Single=REC On+ Right Head)

Date: 9/16/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 841.5$  MHz;  $\sigma = 0.944$  S/m;  $\epsilon_r = 42.368$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.31, 9.31, 9.31); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Tilt High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.740 W/kg

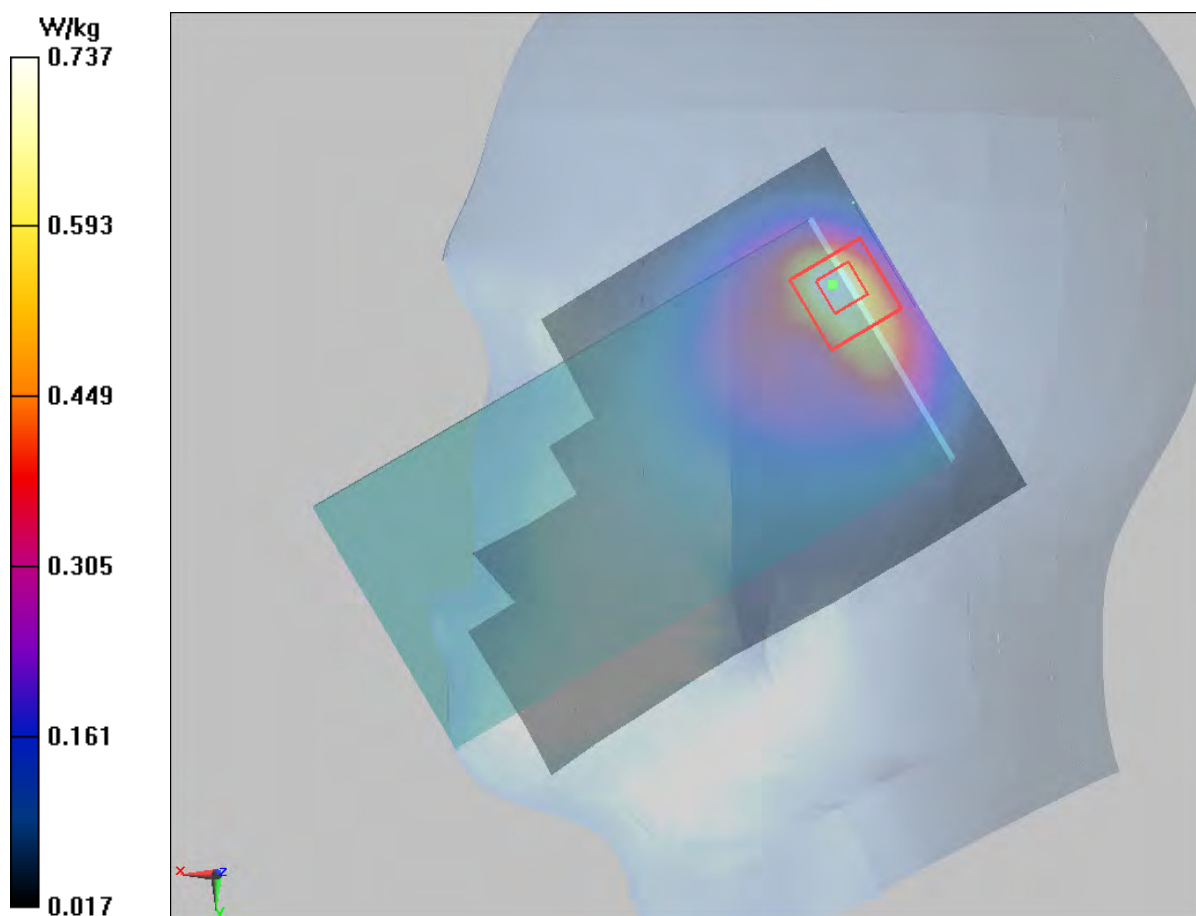
**Right Tilt High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.58 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 1.63 W/kg

**SAR(1 g) = 0.625 W/kg; SAR(10 g) = 0.295 W/kg**

Maximum value of SAR (measured) = 0.737 W/kg



# Plot 115 LTE Band 26 1RB Front Side High (Single=REC Off, Distance 15mm)

Date: 9/18/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 841.5$  MHz;  $\sigma = 1.018$  S/m;  $\epsilon_r = 55.349$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.234 W/kg

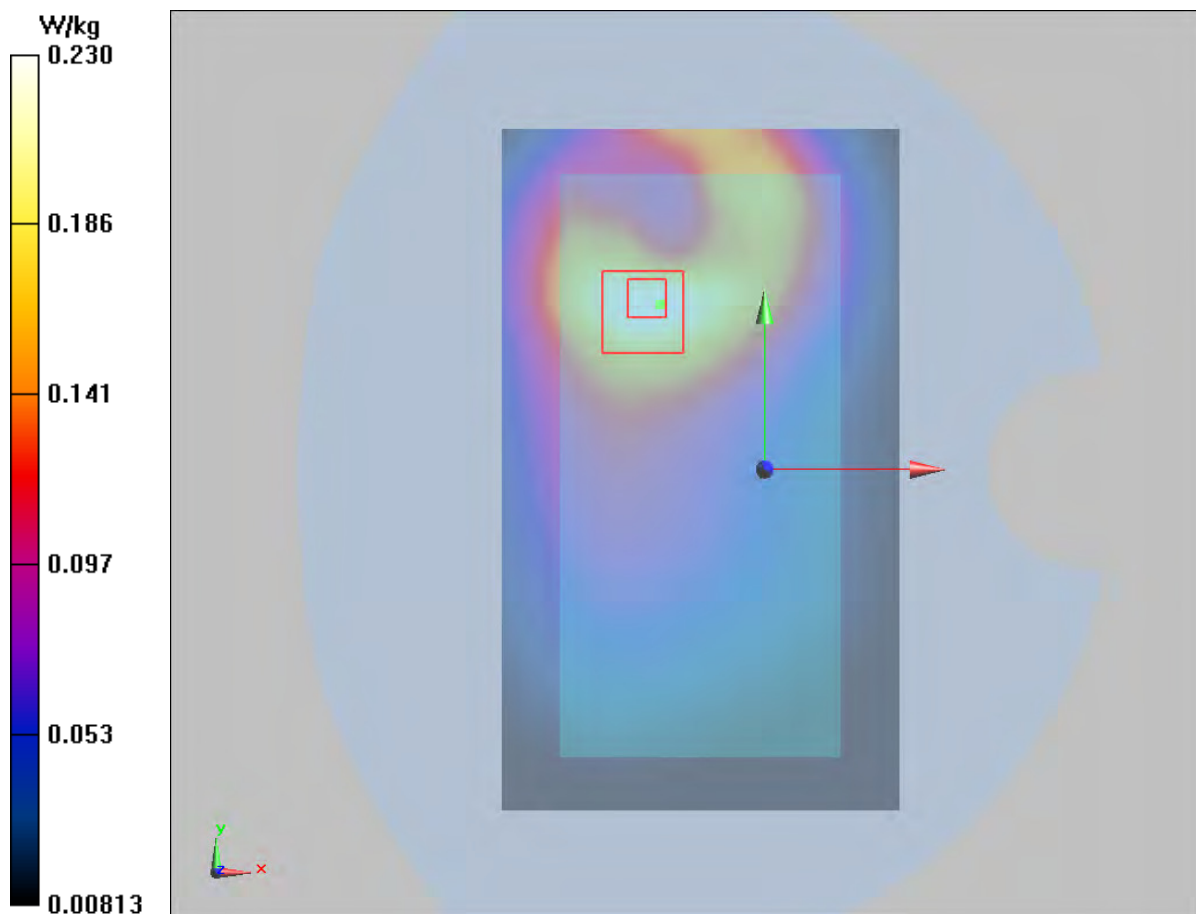
**Front Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.987 V/m; Power Drift = 0.09 dB

Peak SAR (extrapolated) = 0.306 W/kg

**SAR(1 g) = 0.218 W/kg; SAR(10 g) = 0.149 W/kg**

Maximum value of SAR (measured) = 0.230 W/kg



# **Plot 116 LTE Band 26 1RB Back Side High (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/18/2017

Communication System: UID 0, LTE\_FDD (0); Frequency: 841.5 MHz; Duty Cycle: 1:1

Medium parameters used (interpolated):  $f = 841.5$  MHz;  $\sigma = 1.018$  S/m;  $\epsilon_r = 55.349$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(9.74, 9.74, 9.74); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (71x121x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.206 W/kg

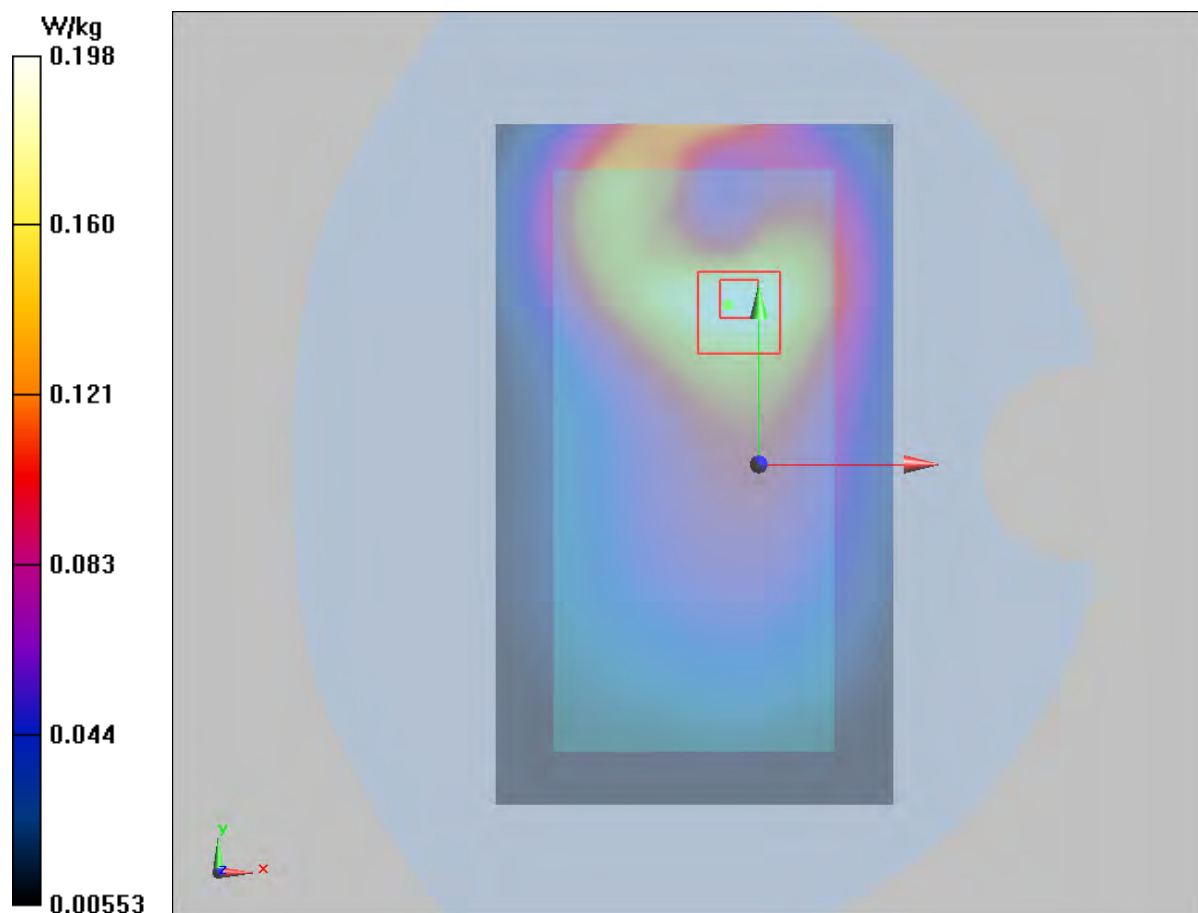
**Back Side High/Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.719 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.304 W/kg

**SAR(1 g) = 0.188 W/kg; SAR(10 g) = 0.111 W/kg**

Maximum value of SAR (measured) = 0.198 W/kg



# Plot 117 LTE Band 38 1RB Left Cheek Middle (Single=REC On+Left Head)

Date: 9/17/2017

Communication System: UID 0, LTE (0); Frequency: 2595 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2595$  MHz;  $\sigma = 2.004$  S/m;  $\epsilon_r = 40.341$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.999 W/kg

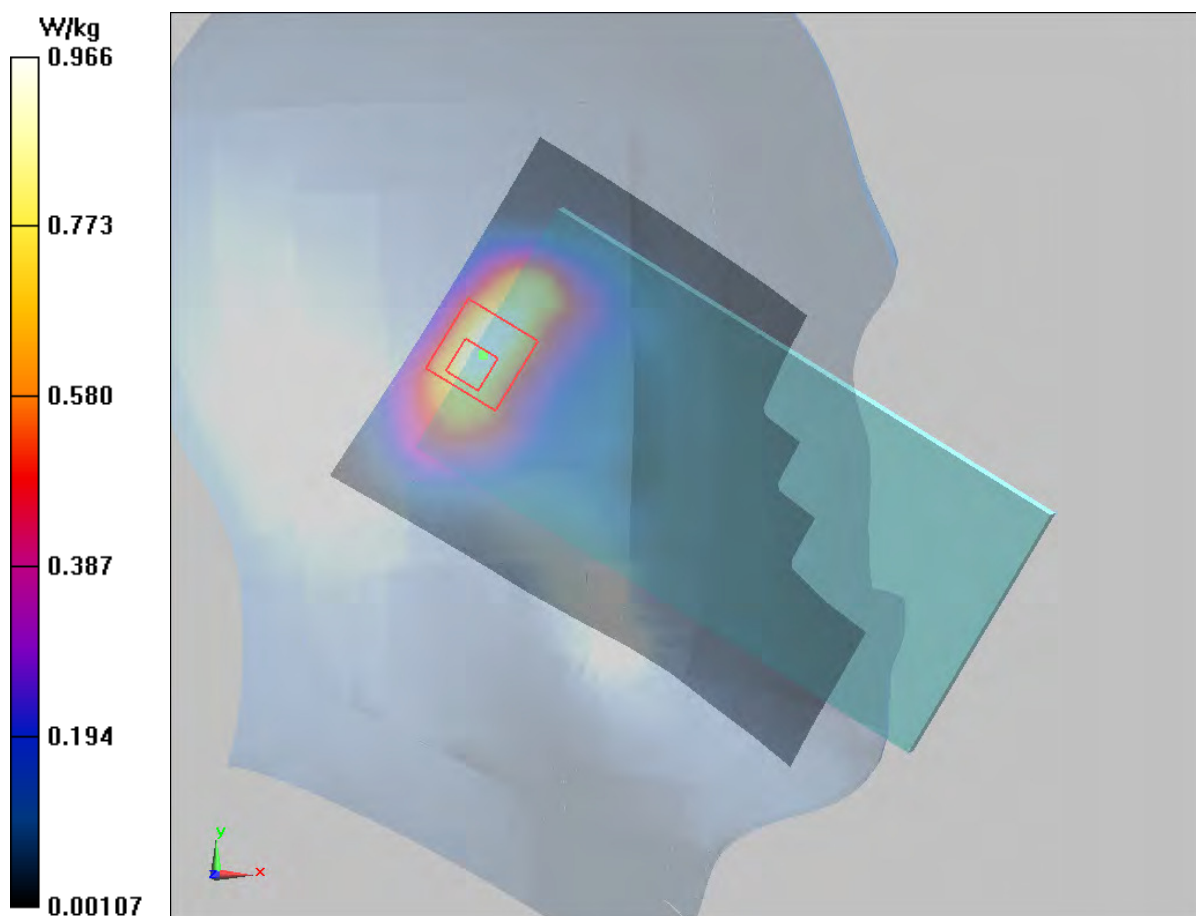
**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 21.07 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 1.86 W/kg

**SAR(1 g) = 0.884 W/kg; SAR(10 g) = 0.436 W/kg**

Maximum value of SAR (measured) = 0.966 W/kg



# Plot 118 LTE Band 38 1RB Front Side Middle (Single=REC Off, Distance 15mm)

Date: 9/19/2017

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.15$  S/m;  $\epsilon_r = 51.166$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.161 W/kg

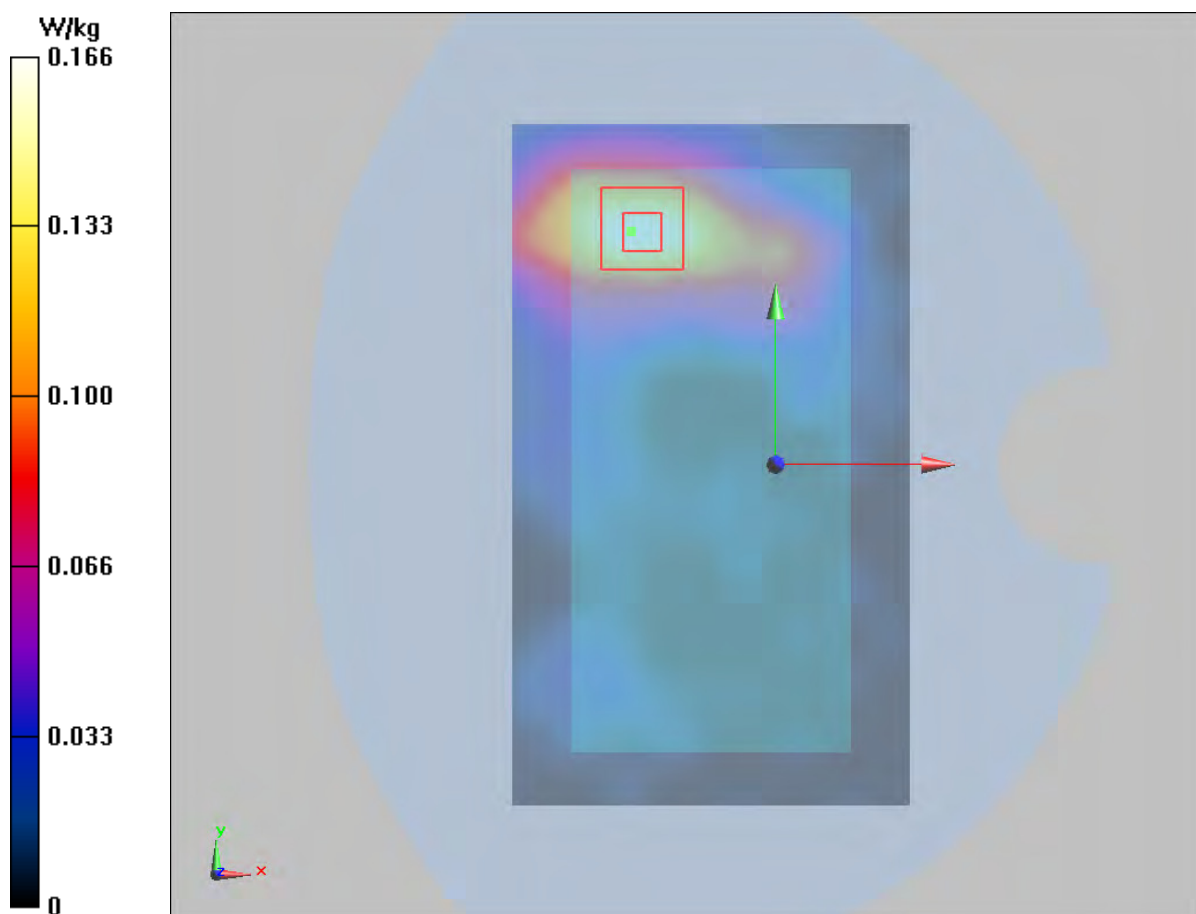
**Front Side Middle /Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.919 V/m; Power Drift = -0.029 dB

Peak SAR (extrapolated) = 0.308 W/kg

**SAR(1 g) = 0.153 W/kg; SAR(10 g) = 0.076 W/kg**

Maximum value of SAR (measured) = 0.166 W/kg





# **Plot 119 LTE Band 38 1RB Back Side High (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/19/2017

Communication System: UID 0, LTE (0); Frequency: 2610 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2610$  MHz;  $\sigma = 2.15$  S/m;  $\epsilon_r = 51.166$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.169 W/kg

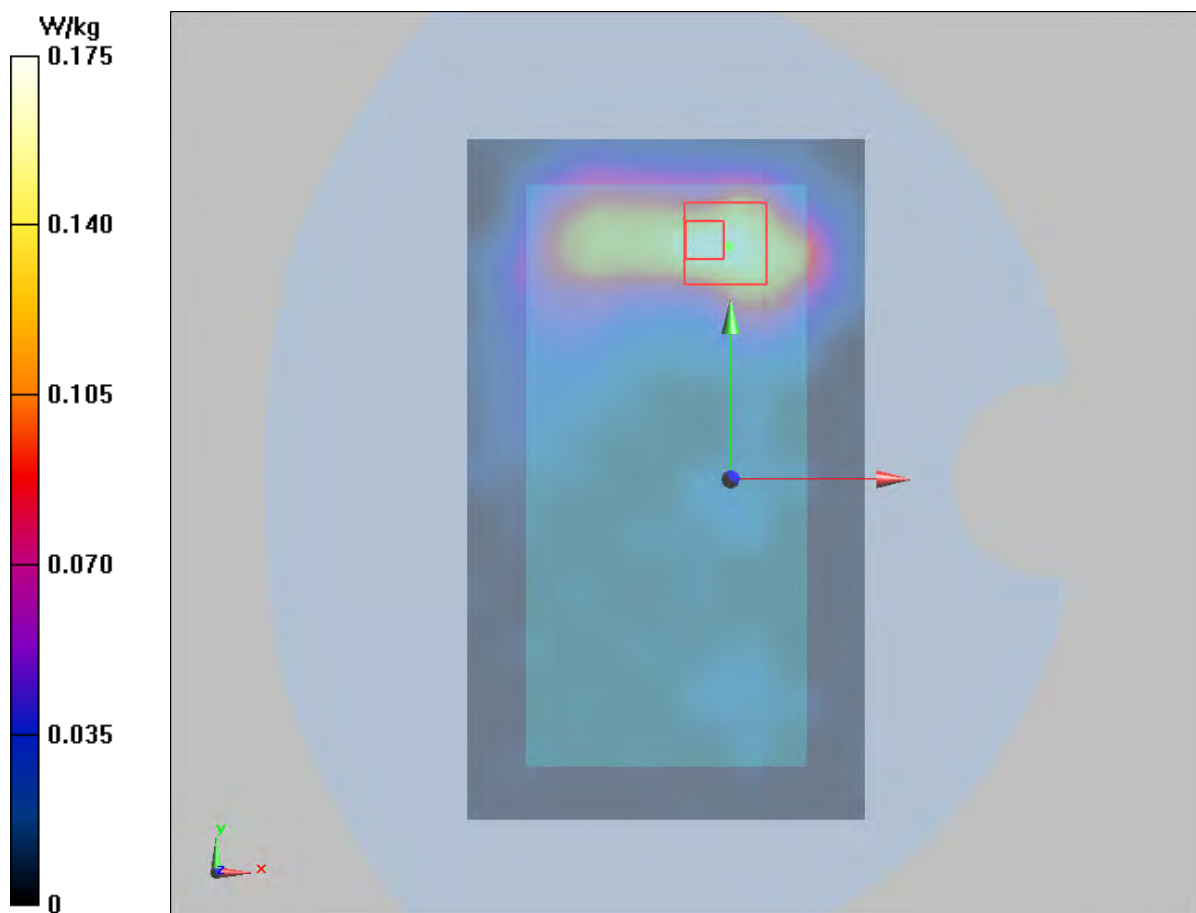
**Back Side High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.607 V/m; Power Drift = -0.030 dB

Peak SAR (extrapolated) = 0.312 W/kg

**SAR(1 g) = 0.154 W/kg; SAR(10 g) = 0.078 W/kg**

Maximum value of SAR (measured) = 0.175 W/kg



# Plot 120 LTE Band 41 1RB Left Cheek High (Single=REC On+Left Head)

Date: 9/18/2017

Communication System: UID 0, LTE (0); Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2645$  MHz;  $\sigma = 2.061$  S/m;  $\epsilon_r = 40.122$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.43, 7.43, 7.43); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.837 W/kg

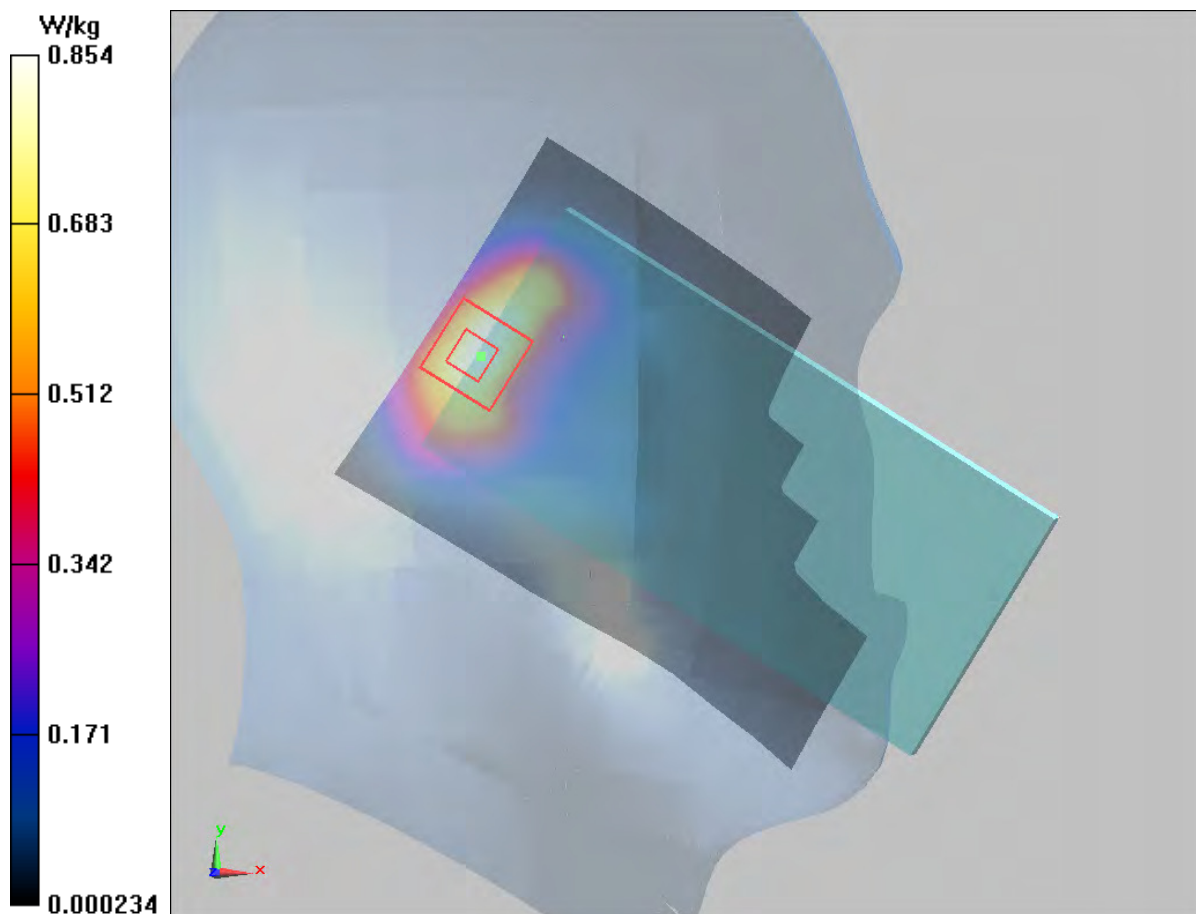
**Left Cheek High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 17.68 V/m; Power Drift = 0.052 dB

Peak SAR (extrapolated) = 1.59 W/kg

**SAR(1 g) = 0.781 W/kg; SAR(10 g) = 0.389 W/kg**

Maximum value of SAR (measured) = 0.854 W/kg





# **Plot 121 LTE Band 41 1RB Front Side High (Single=REC Off, Distance 15mm)**

Date: 9/18/2017

Communication System: UID 0, LTE (0); Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2645$  MHz;  $\sigma = 2.192$  S/m;  $\epsilon_r = 51.066$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side High/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.261 W/kg

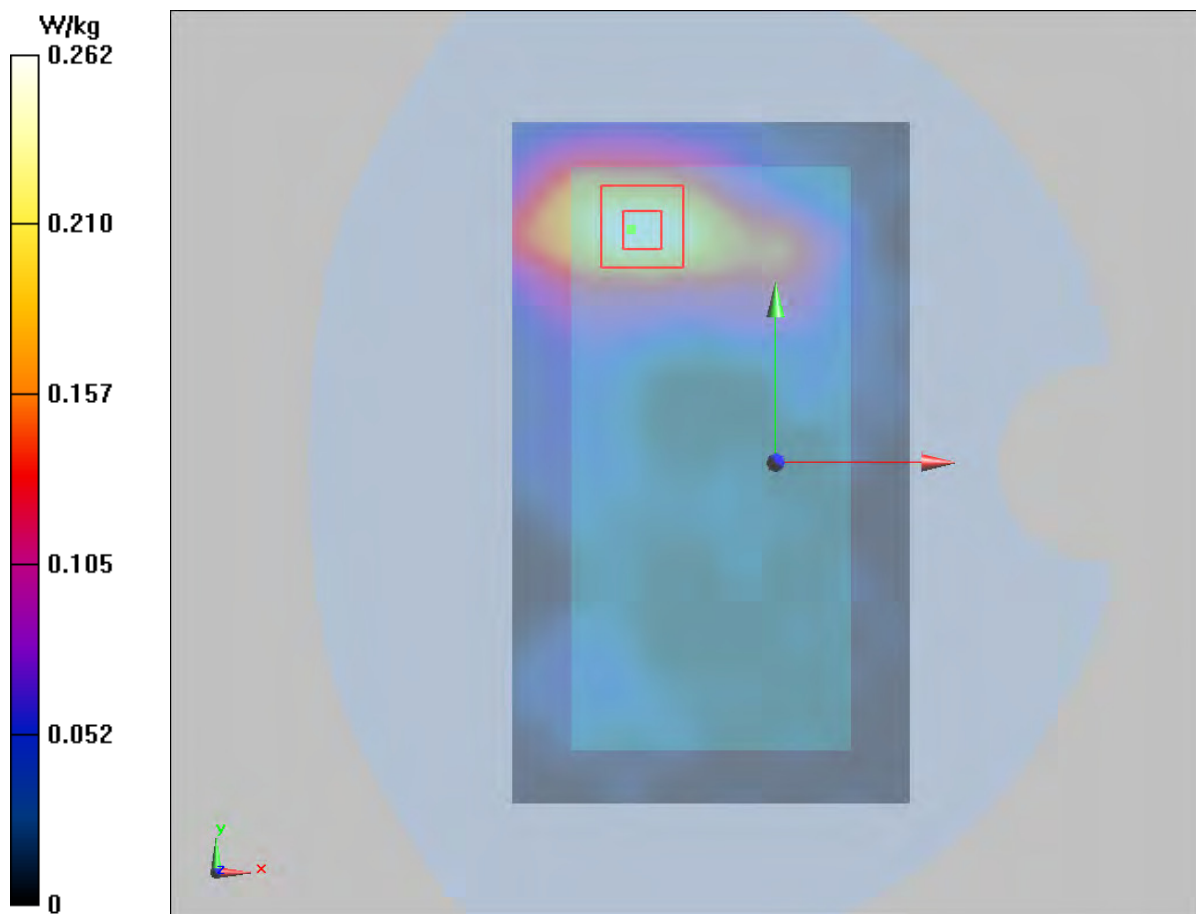
**Front Side High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.006 V/m; Power Drift = -0.187 dB

Peak SAR (extrapolated) = 0.488 W/kg

**SAR(1 g) = 0.244 W/kg; SAR(10 g) = 0.121 W/kg**

Maximum value of SAR (measured) = 0.262 W/kg



# **Plot 122 LTE Band 41 1RB Top Edge High (Synchronous=REC Off+Wi-Fi/BT, Distance 10mm)**

Date: 9/19/2017

Communication System: UID 0, LTE (0); Frequency: 2645 MHz; Duty Cycle: 1:1.58

Medium parameters used:  $f = 2645$  MHz;  $\sigma = 2.192$  S/m;  $\epsilon_r = 51.066$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.52, 7.52, 7.52); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Top Edge High/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.303 W/kg

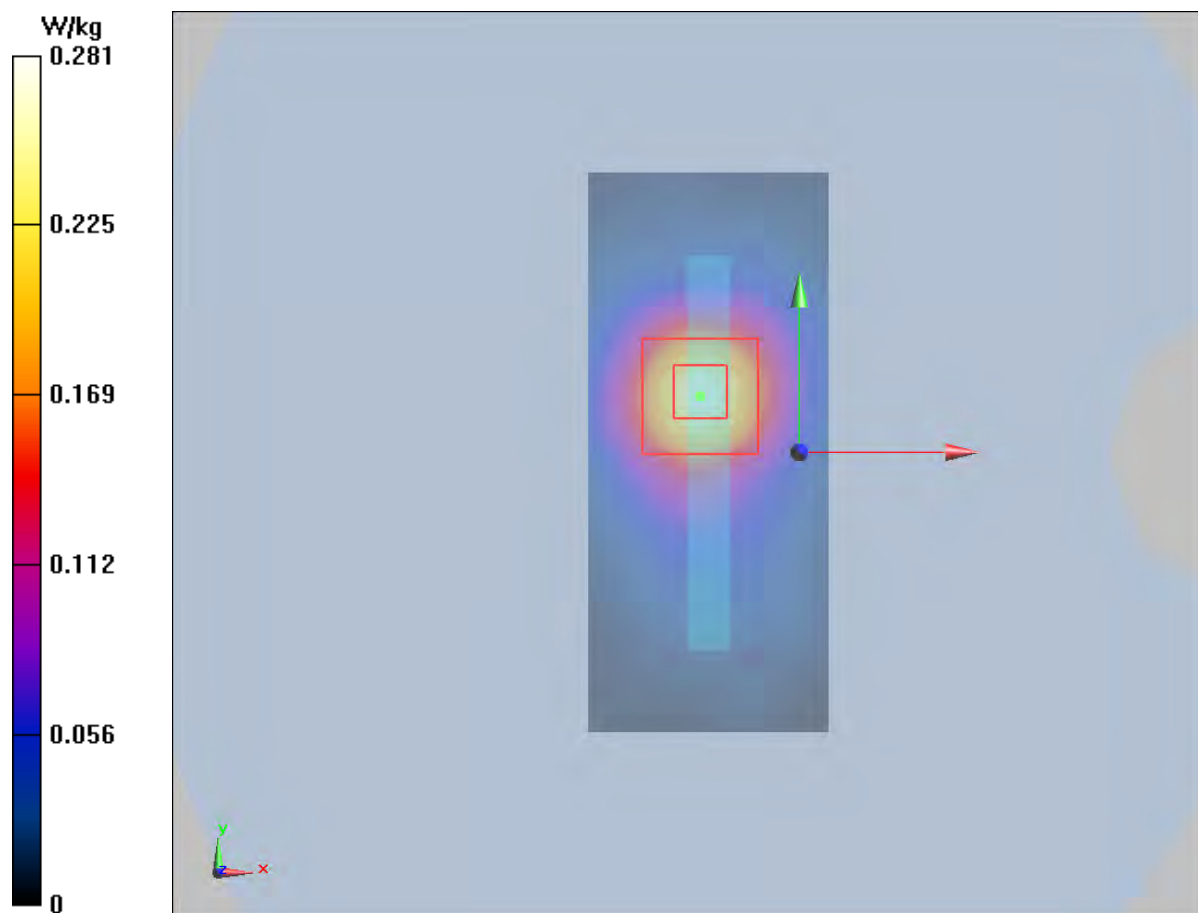
**Top Edge High/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.635 V/m; Power Drift = 0.027 dB

Peak SAR (extrapolated) = 0.507 W/kg

**SAR(1 g) = 0.252 W/kg; SAR(10 g) = 0.120 W/kg**

Maximum value of SAR (measured) = 0.281 W/kg



## Wi-Fi Antenna 1

### Plot 123 802.11b Left Cheek Middle (REC On, Battery 2)

Date: 9/25/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.846$  S/m;  $\epsilon_r = 39.132$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(7.64, 7.64, 7.64); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.636 W/kg

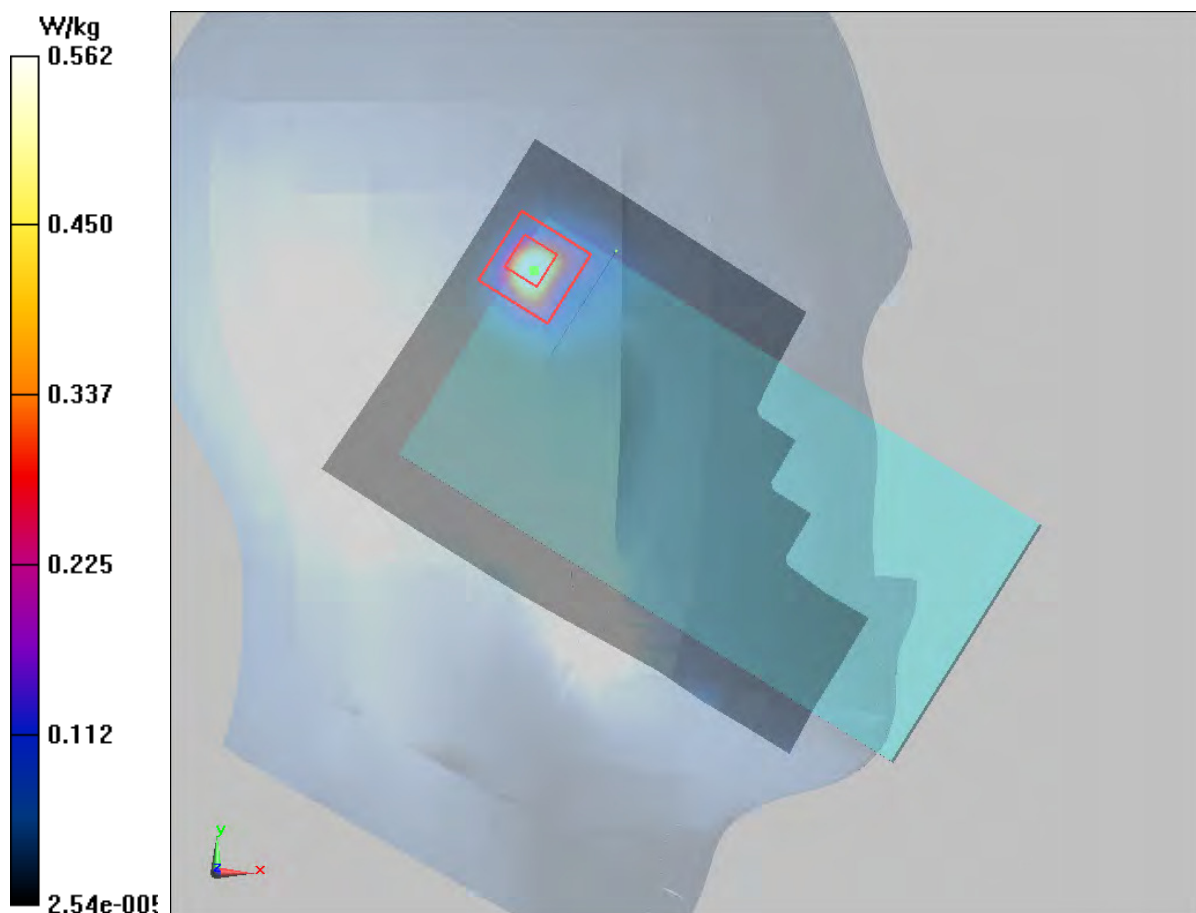
**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 10.35 V/m; Power Drift = -0.06 dB

Peak SAR (extrapolated) = 1.36 W/kg

**SAR(1 g) = 0.492 W/kg; SAR(10 g) = 0.222 W/kg**

Maximum value of SAR (measured) = 0.562 W/kg



# Plot 124 802.11b Back Side Middle (REC Off, Distance 15mm)

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.208 W/kg

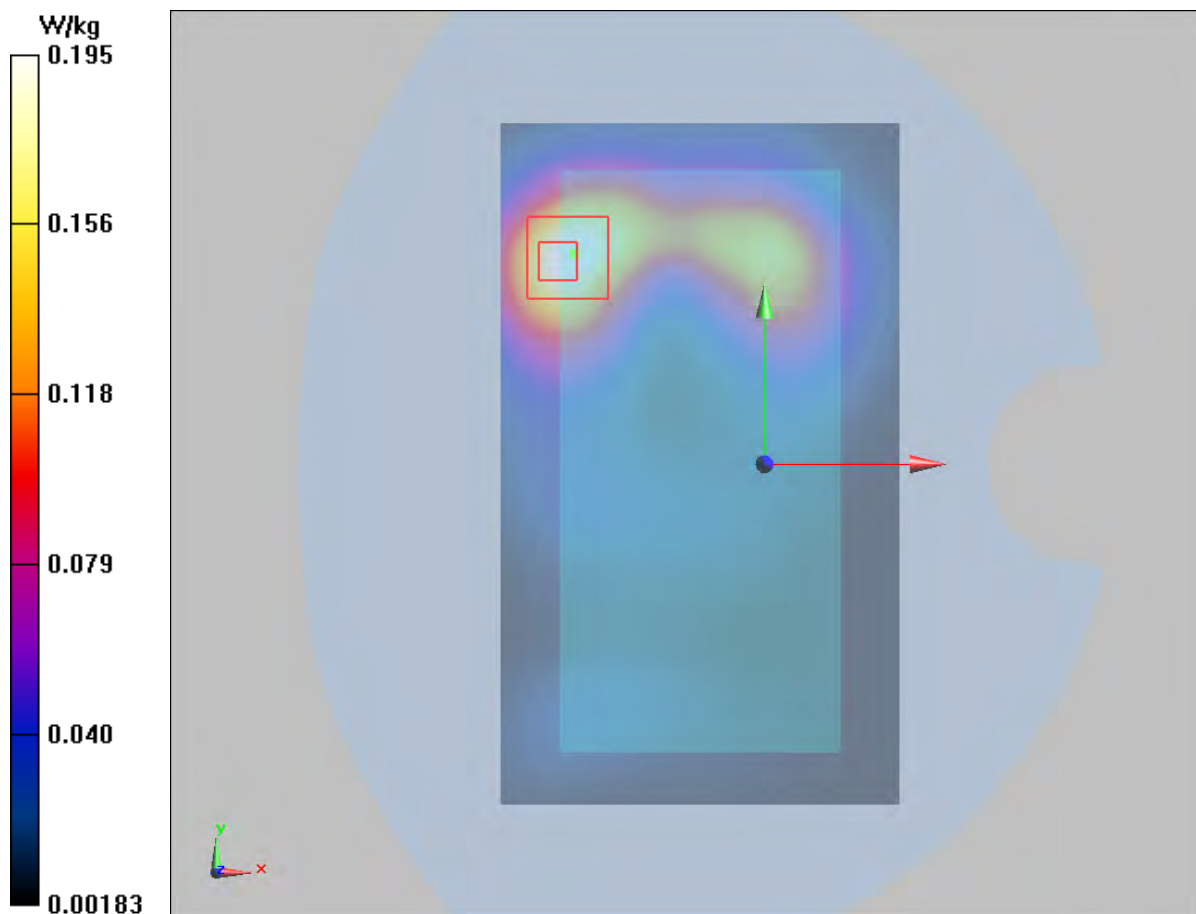
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 2.885 V/m; Power Drift = -0.10 dB

Peak SAR (extrapolated) = 0.348 W/kg

**SAR(1 g) = 0.185 W/kg; SAR(10 g) = 0.098 W/kg**

Maximum value of SAR (measured) = 0.195 W/kg



# Plot 125 802.11b Top Edge Middle (REC Off, Distance 10mm)

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Top Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.514 W/kg

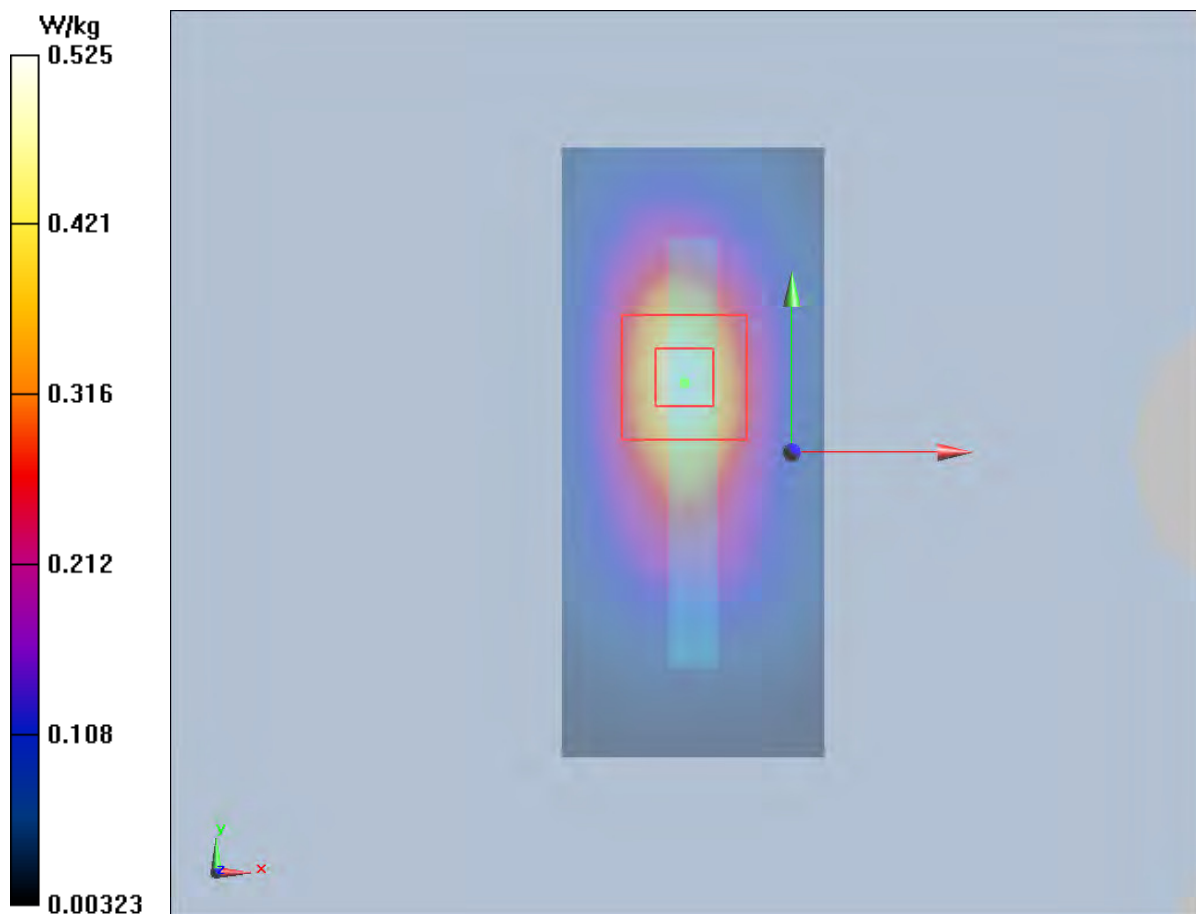
**Top Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 14.54 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.895 W/kg

**SAR(1 g) = 0.464 W/kg; SAR(10 g) = 0.230 W/kg**

Maximum value of SAR (measured) = 0.525 W/kg



## Wi-Fi Antenna 2

### Plot 126 802.11b Left Cheek Middle (REC On, Battery 2)

Date: 9/25/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.846$  S/m;  $\epsilon_r = 39.132$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(7.64, 7.64, 7.64); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.210 W/kg

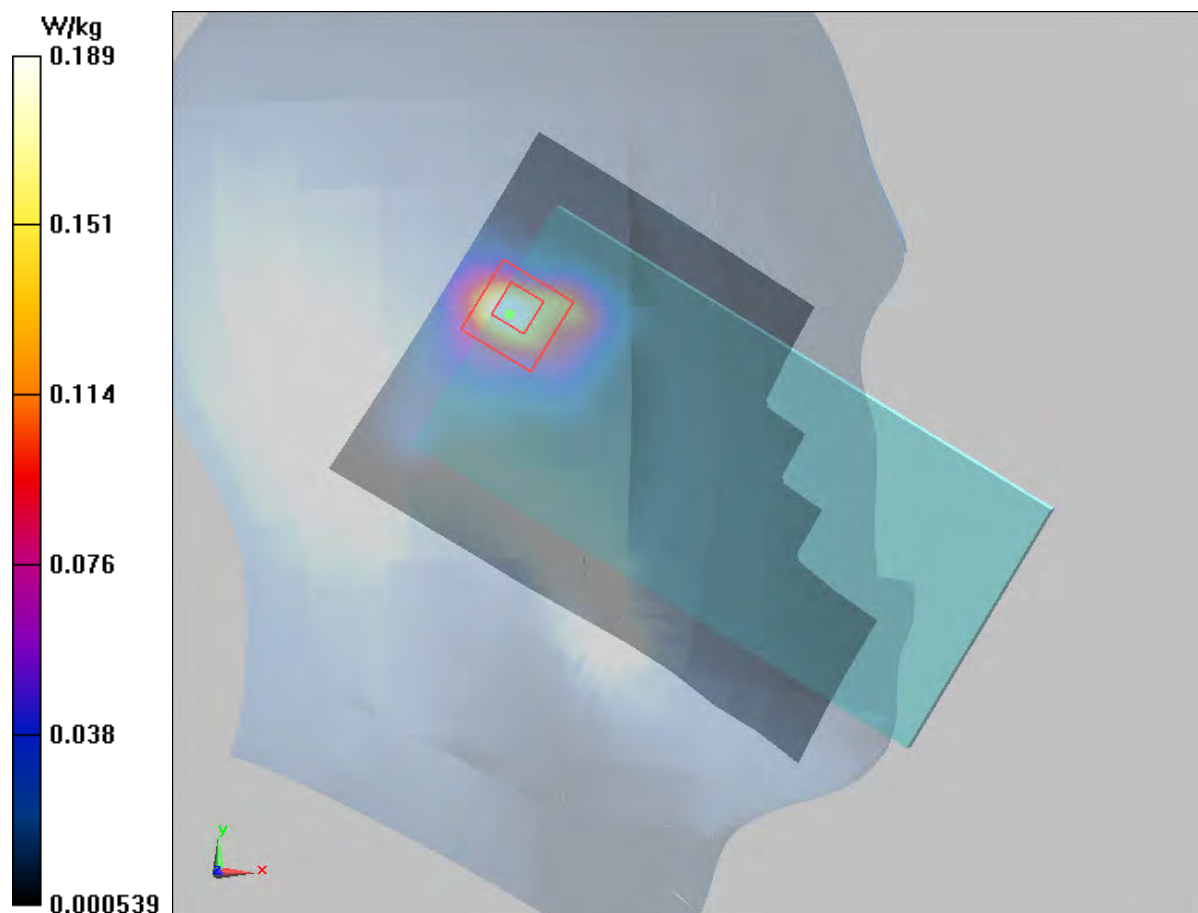
**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 7.983 V/m; Power Drift = 0.024 dB

Peak SAR (extrapolated) = 0.476 W/kg

**SAR(1 g) = 0.173 W/kg; SAR(10 g) = 0.068 W/kg**

Maximum value of SAR (measured) = 0.189 W/kg





# Plot 127 802.11b Back Side Middle (REC Off, Distance 15mm)

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.222 W/kg

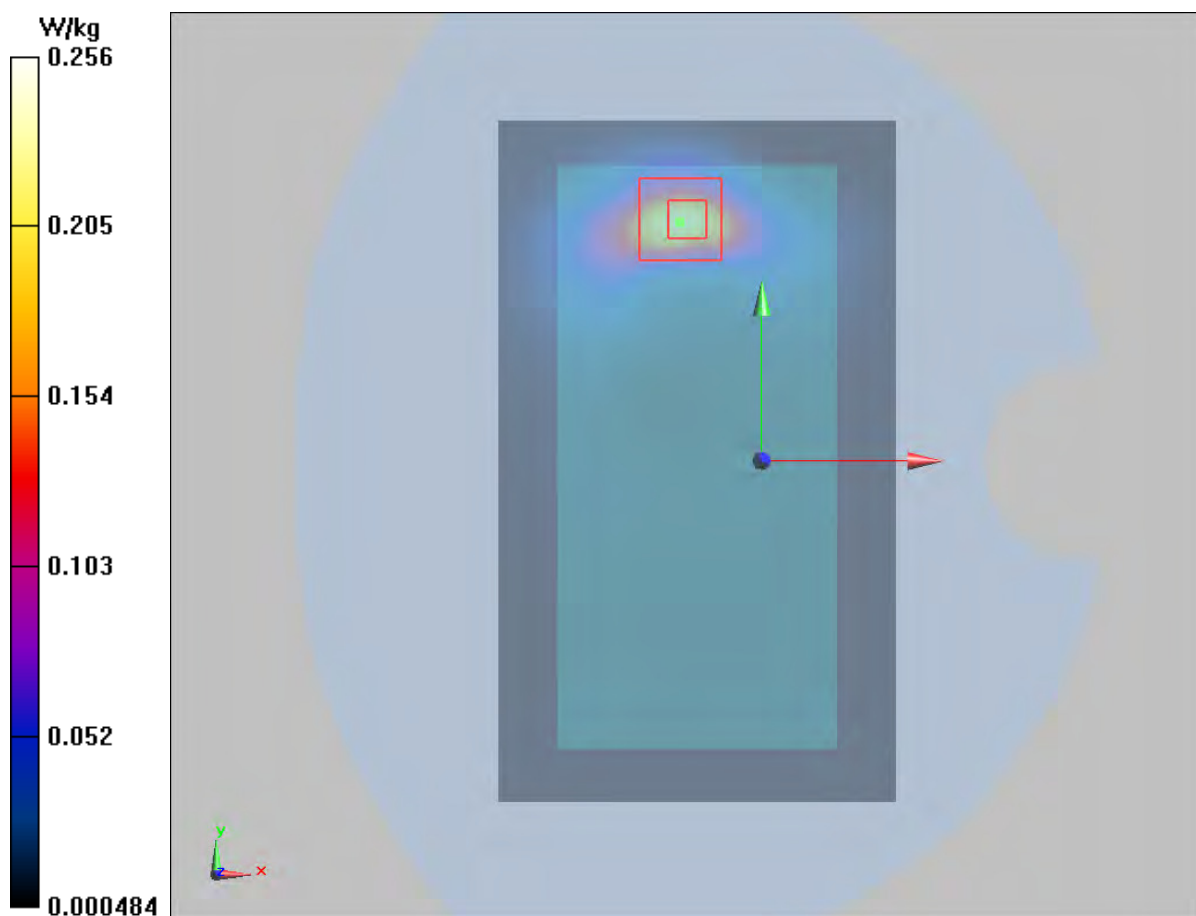
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.303 V/m; Power Drift = 0.068 dB

Peak SAR (extrapolated) = 0.471 W/kg

**SAR(1 g) = 0.219 W/kg; SAR(10 g) = 0.095 W/kg**

Maximum value of SAR (measured) = 0.256 W/kg



# Plot 128 802.11b Back Side Middle (REC Off, Distance 10mm)

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.600 W/kg

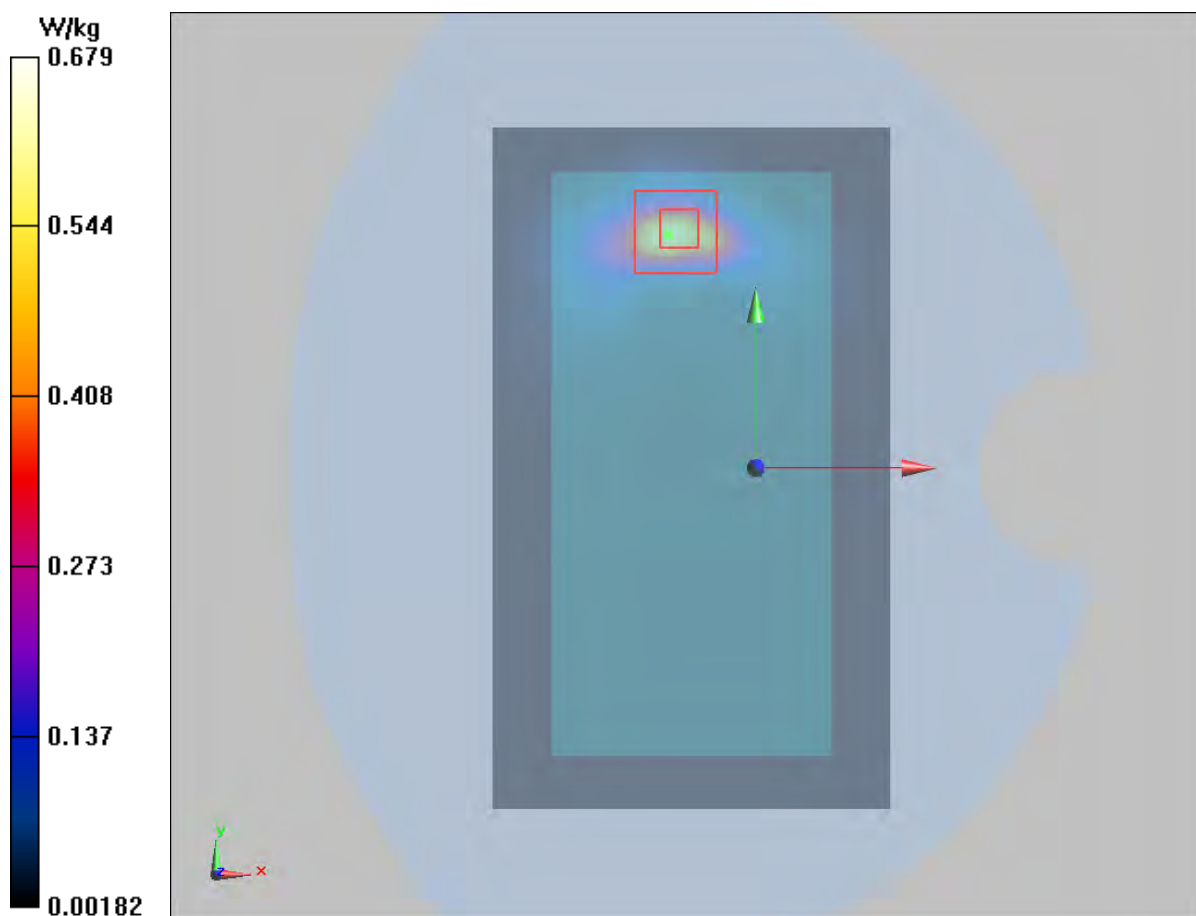
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.414 V/m; Power Drift = 0.033 dB

Peak SAR (extrapolated) = 1.40 W/kg

**SAR(1 g) = 0.540 W/kg; SAR(10 g) = 0.223 W/kg**

Maximum value of SAR (measured) = 0.679 W/kg





## Wi-Fi Antenna 1

### Plot 129 802.11g Left Cheek Middle (REC On, Battery 2)

Date: 9/25/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.846$  S/m;  $\epsilon_r = 39.132$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(7.64, 7.64, 7.64); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.601 W/kg

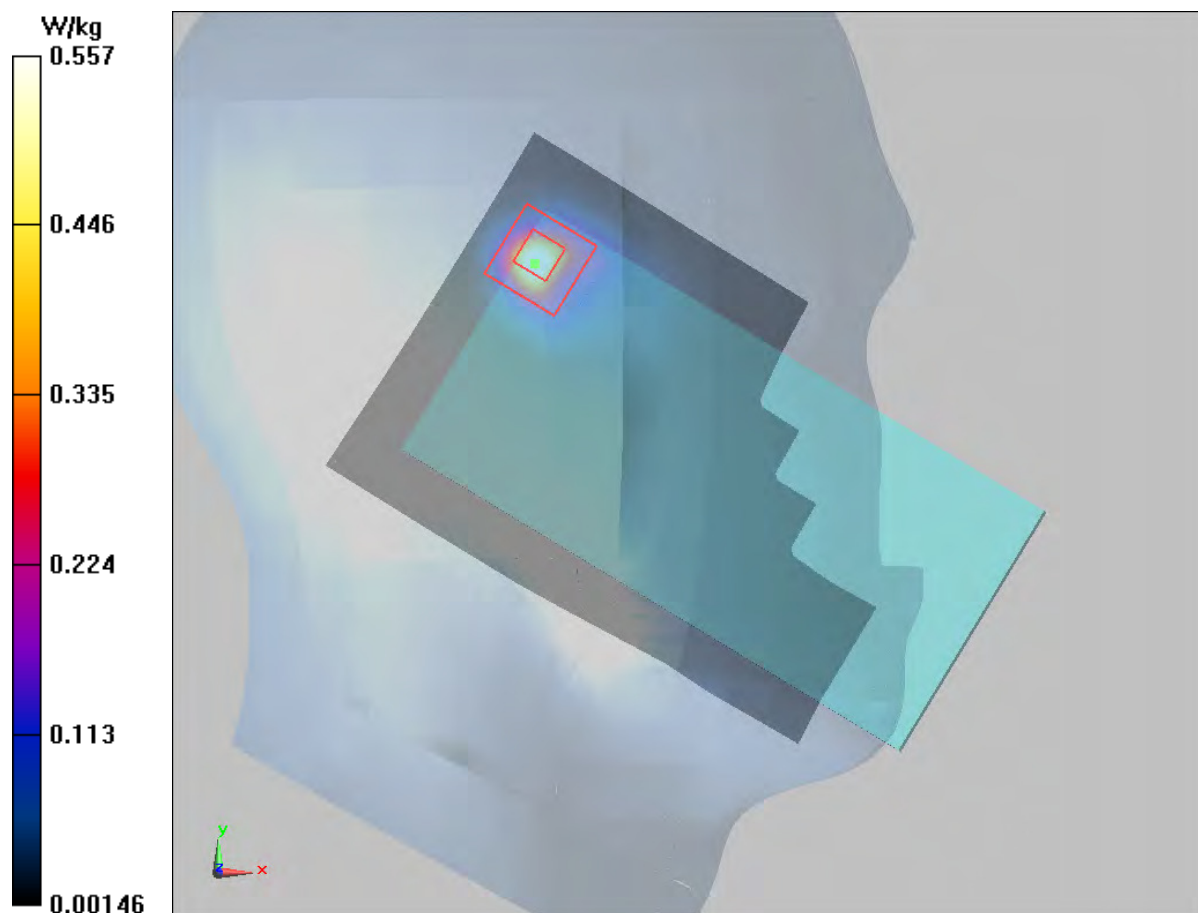
**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 6.477 V/m; Power Drift = 0.025 dB

Peak SAR (extrapolated) = 1.28 W/kg

**SAR(1 g) = 0.510 W/kg; SAR(10 g) = 0.236 W/kg**

Maximum value of SAR (measured) = 0.557 W/kg



# Plot 130 802.11g Back Side Middle (REC Off, Distance 15mm)

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.120 W/kg

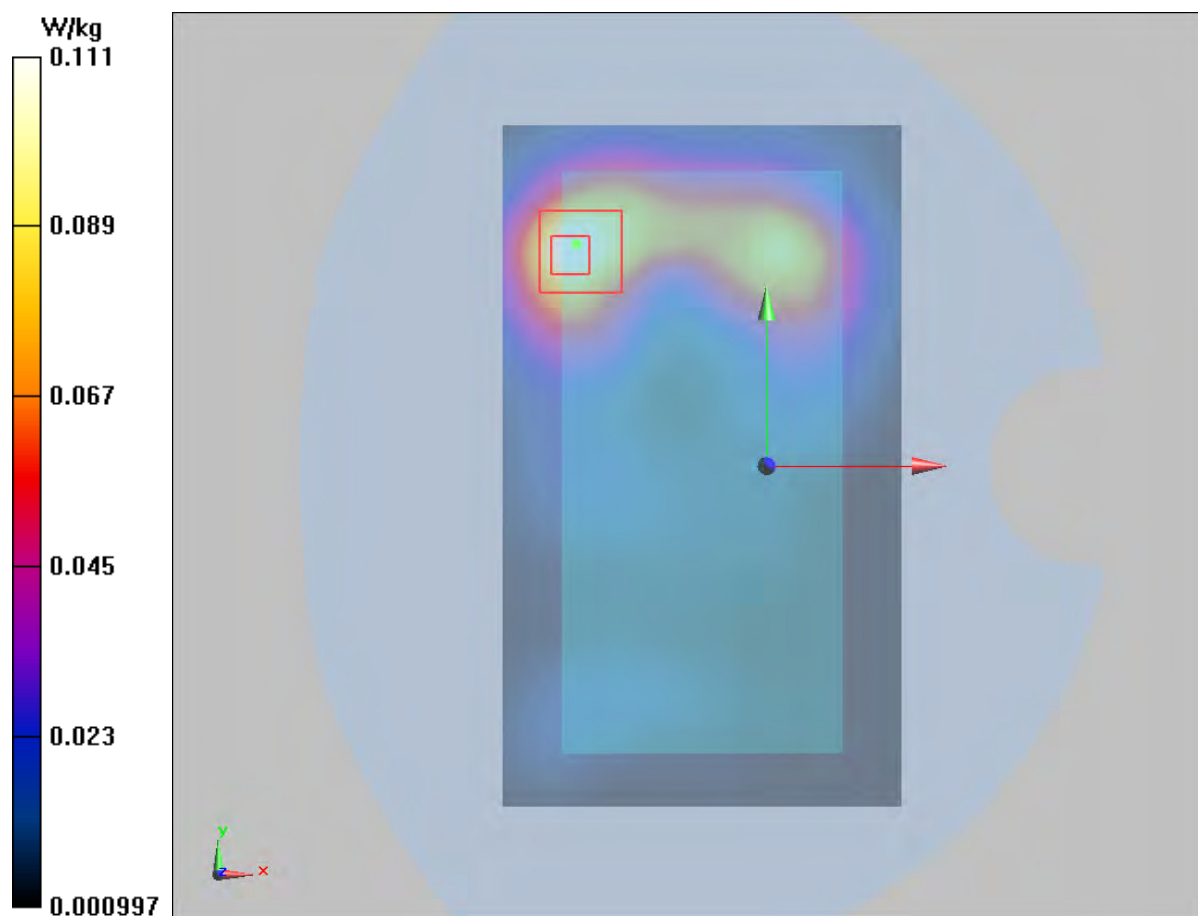
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.978 V/m; Power Drift = 0.101 dB

Peak SAR (extrapolated) = 0.199 W/kg

**SAR(1 g) = 0.103 W/kg; SAR(10 g) = 0.054 W/kg**

Maximum value of SAR (measured) = 0.111 W/kg



# Plot 131 802.11g Top Edge Middle (REC Off, Distance 10mm)

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Top Edge Middle/Area Scan (51x111x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.328 W/kg

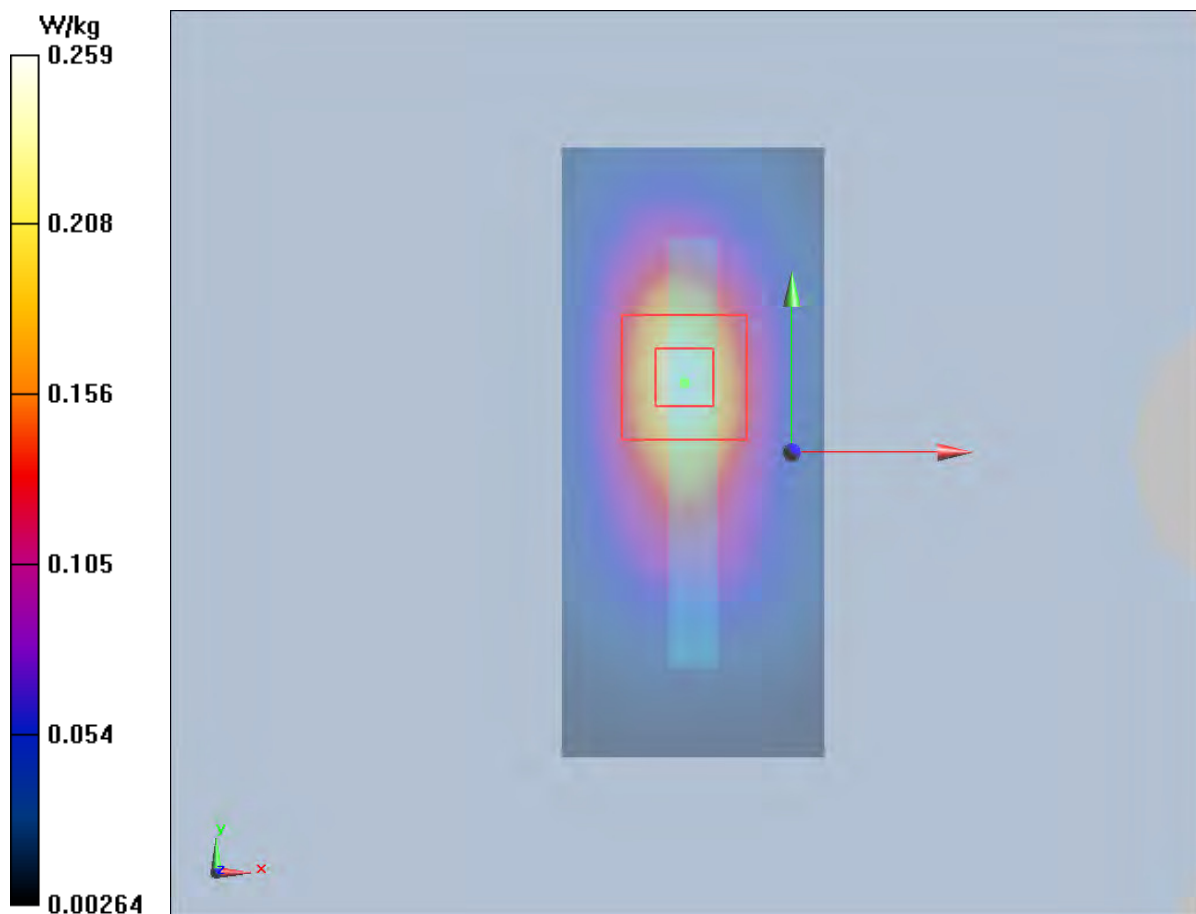
**Top Edge Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 9.302 V/m; Power Drift = 0.051 dB

Peak SAR (extrapolated) = 0.491 W/kg

**SAR(1 g) = 0.242 W/kg; SAR(10 g) = 0.123 W/kg**

Maximum value of SAR (measured) = 0.259 W/kg



## Wi-Fi Antenna 2

### Plot 132 802.11g Left Cheek Middle (REC On, Battery 2)

Date: 9/25/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.846$  S/m;  $\epsilon_r = 39.132$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(7.64, 7.64, 7.64); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.137 W/kg

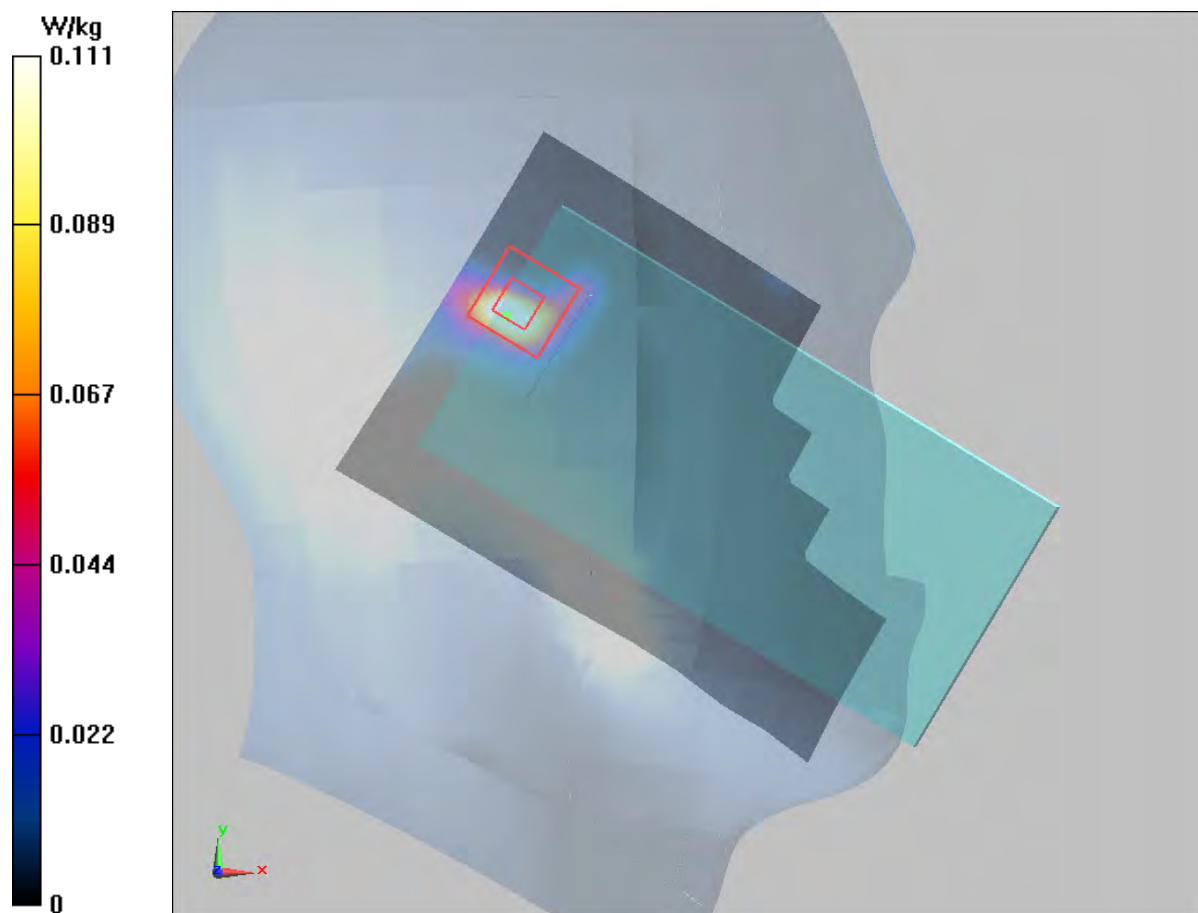
**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.100 V/m; Power Drift = 0.026 dB

Peak SAR (extrapolated) = 0.258 W/kg

**SAR(1 g) = 0.097 W/kg; SAR(10 g) = 0.036 W/kg**

Maximum value of SAR (measured) = 0.111 W/kg



# Plot 133 802.11g Back Side Middle (REC Off, Distance 15mm)

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.00548 W/kg

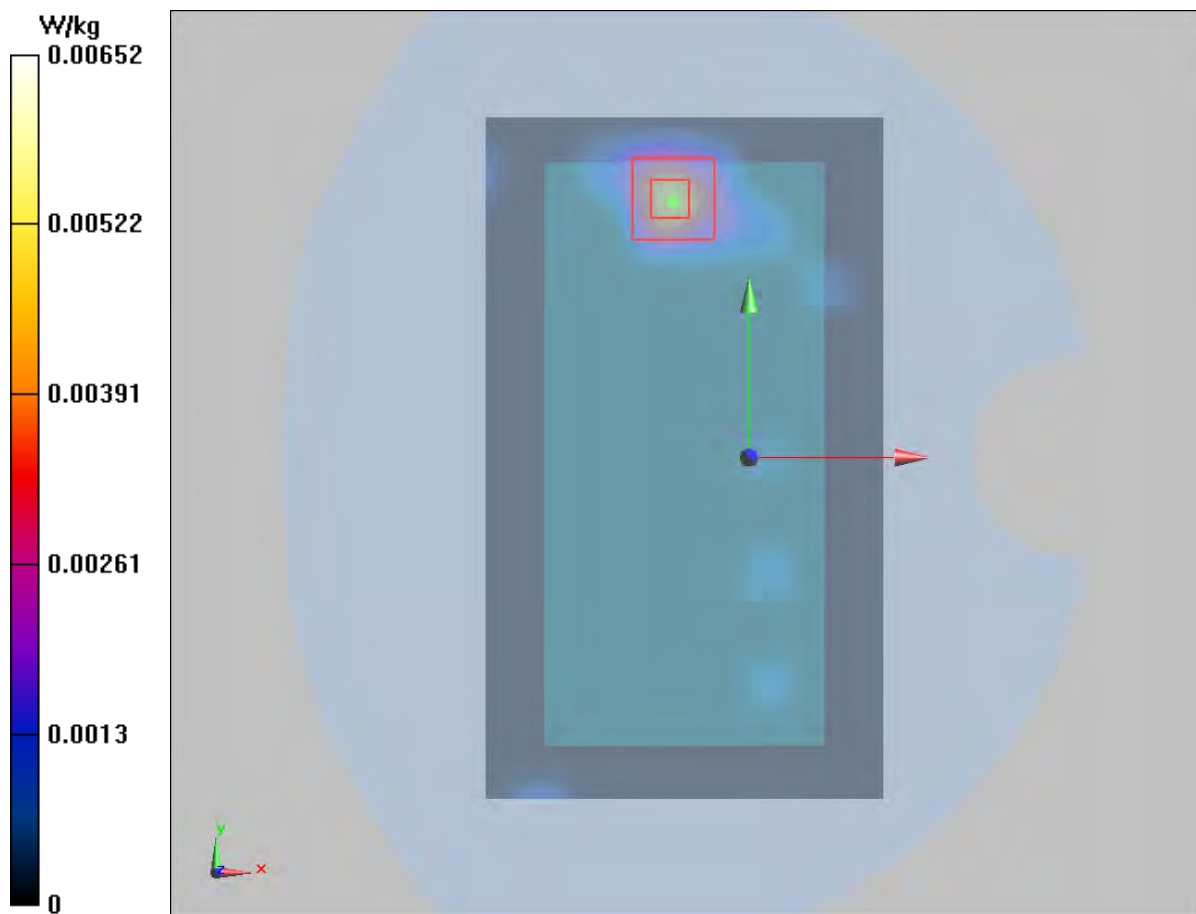
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.4100 V/m; Power Drift = 0.043 dB

Peak SAR (extrapolated) = 0.0130 W/kg

**SAR(1 g) = 0.00525 W/kg; SAR(10 g) = 0.00199 W/kg**

Maximum value of SAR (measured) = 0.00652 W/kg



# **Plot 134 802.11g Back Side Middle (REC Off, Distance 10mm)**

Date: 9/23/2017

Communication System: UID 0, WiFi (0); Frequency: 2437 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.891$  S/m;  $\epsilon_r = 51.448$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 1; Type: QD000P40CD; Serial: TP:1666

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0298 W/kg

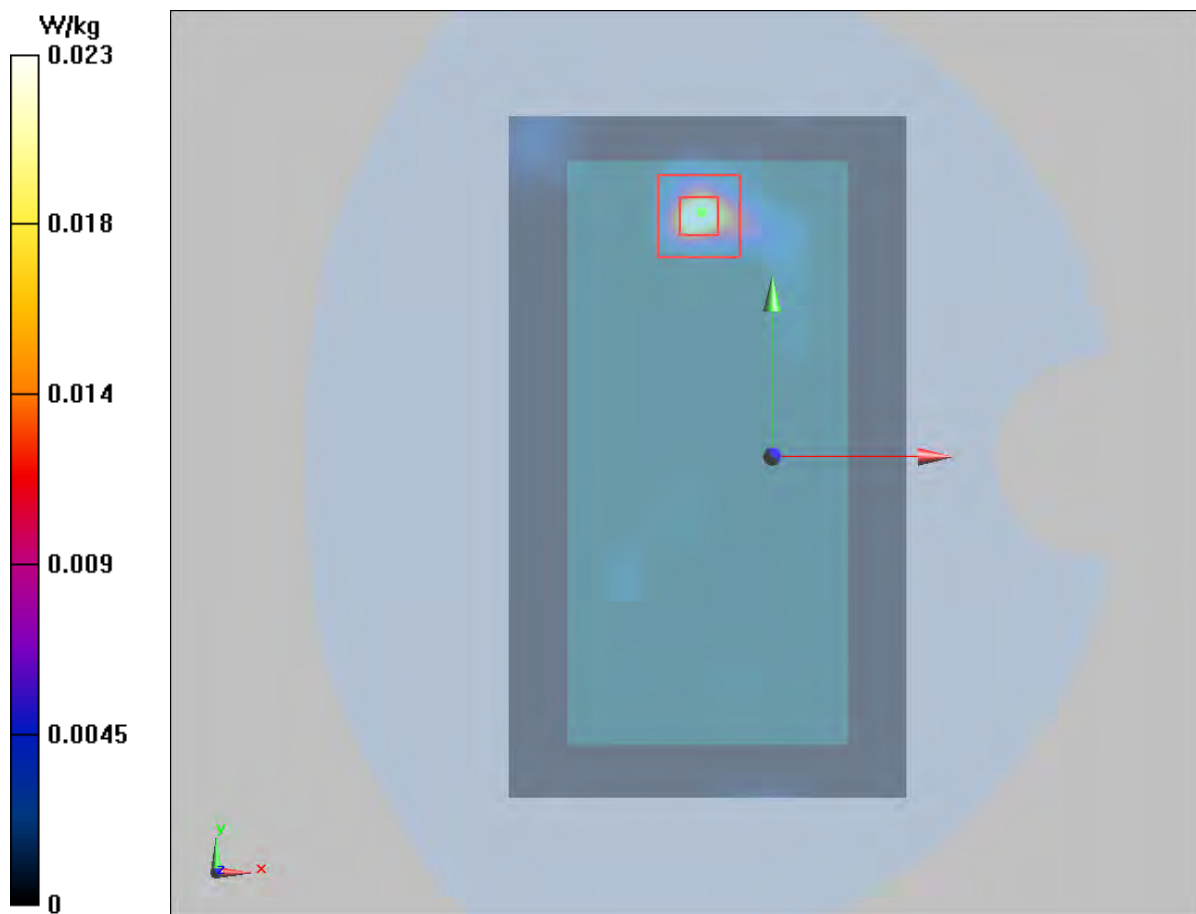
**Back Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.2790 V/m; Power Drift = 0.07 dB

Peak SAR (extrapolated) = 0.0340 W/kg

**SAR(1 g) = 0.016 W/kg; SAR(10 g) = 0.00603 W/kg**

Maximum value of SAR (measured) = 0.023 W/kg





## Wi-Fi Antenna 1

### Plot 135 802.11ac HT80 U-NII-2A Left Cheek CH58 (REC On)

Date: 9/24/2017

Communication System: UID 0, 802.11ac (0); Frequency: 5290 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5290$  MHz;  $\sigma = 4.803$  S/m;  $\epsilon_r = 35.856$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.66, 5.66, 5.66); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.718 W/kg

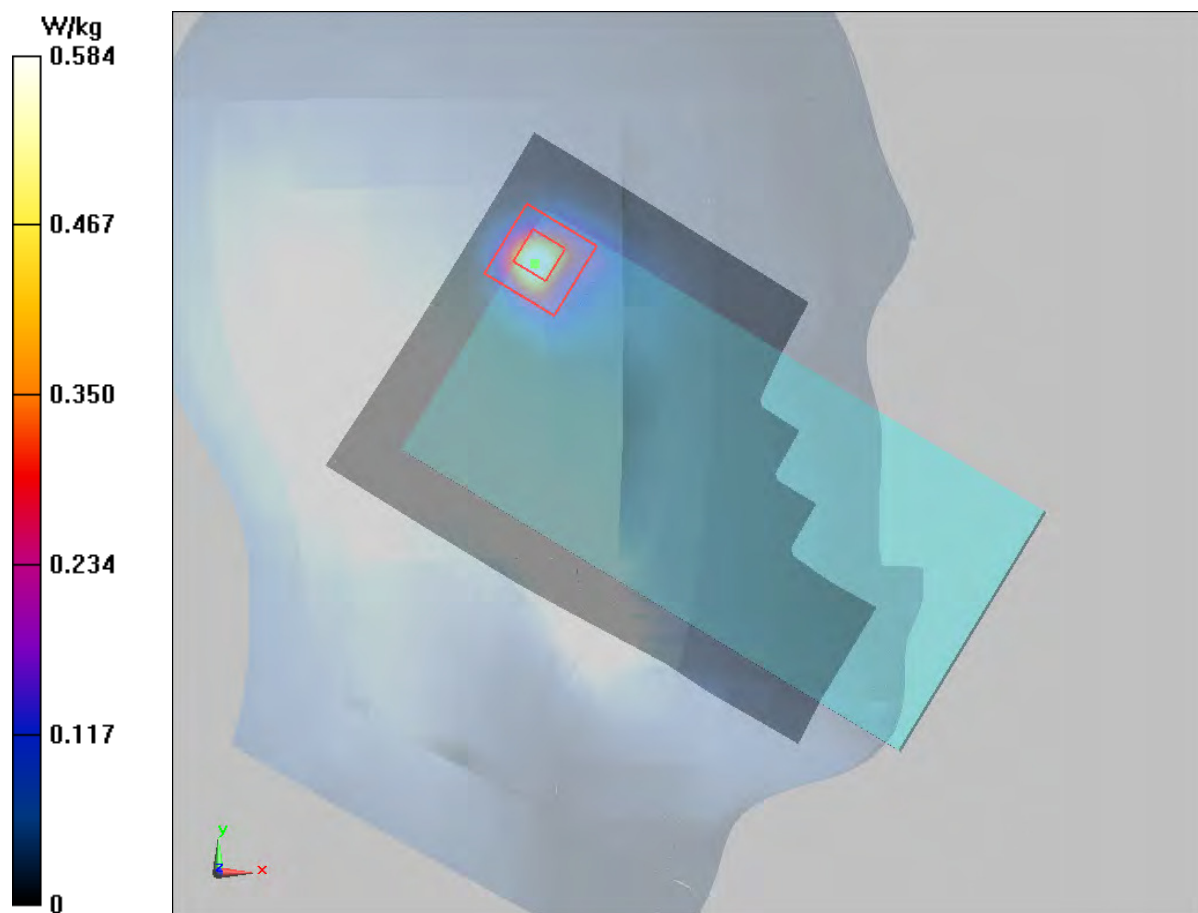
**Left Cheek Middle/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.7440 V/m; Power Drift = 0.107 dB

Peak SAR (extrapolated) = 1.33 W/kg

**SAR(1 g) = 0.327 W/kg; SAR(10 g) = 0.134 W/kg**

Maximum value of SAR (measured) = 0.584 W/kg



# Plot 136 802.11a U-NII-2A Back Side CH52 (REC Off, Distance 15mm)

Date: 9/22/2017

Communication System: UID 0, 802.11a (0); Frequency: 5260 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5260$  MHz;  $\sigma = 5.435$  S/m;  $\epsilon_r = 46.681$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.206 W/kg

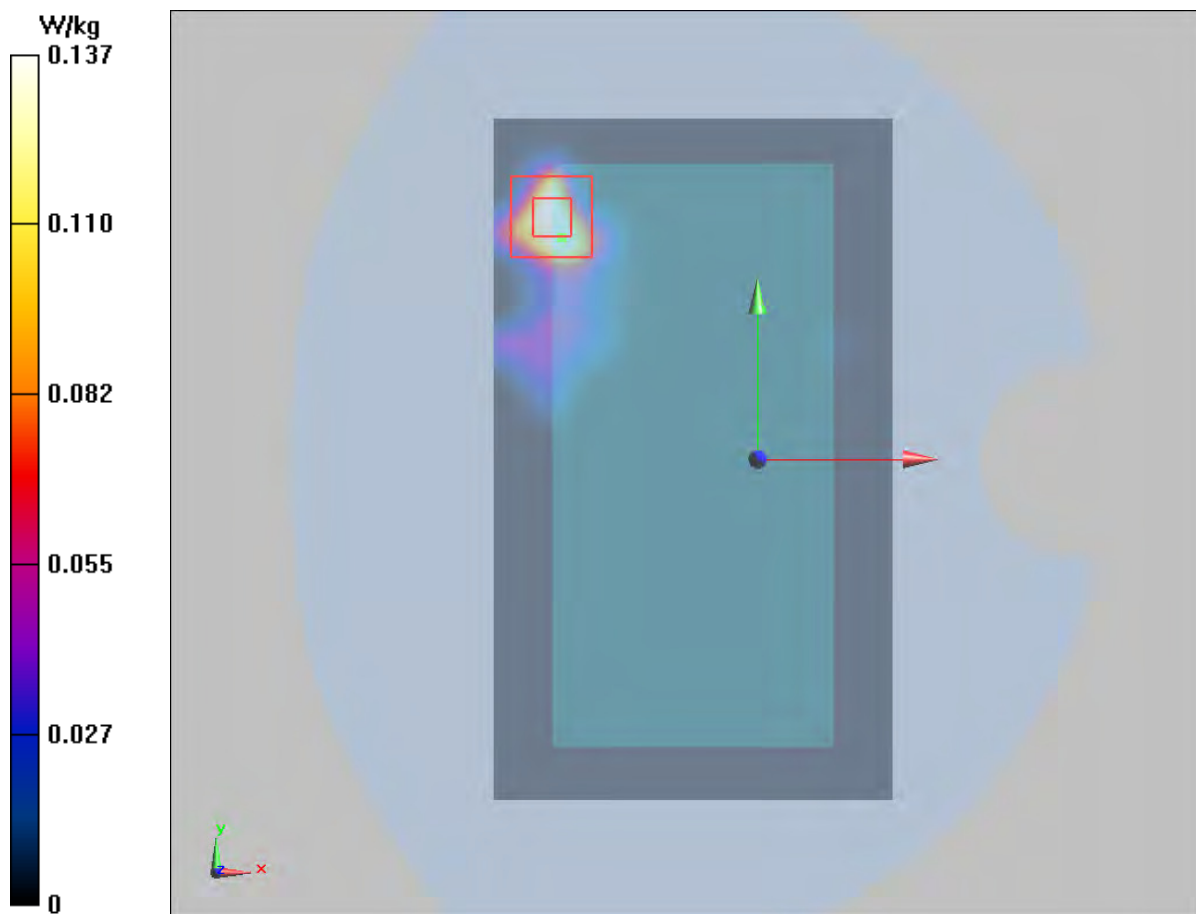
**Back Side Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.600 W/kg

**SAR(1 g) = 0.127 W/kg; SAR(10 g) = 0.044 W/kg**

Maximum value of SAR (measured) = 0.137 W/kg





# Plot 137 802.11a U-NII-2A Back Side CH52 (REC Off, Distance 0mm)

Date: 9/22/2017

Communication System: UID 0, 802.11a (0); Frequency: 5260 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5260$  MHz;  $\sigma = 5.435$  S/m;  $\epsilon_r = 46.681$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.11 W/kg

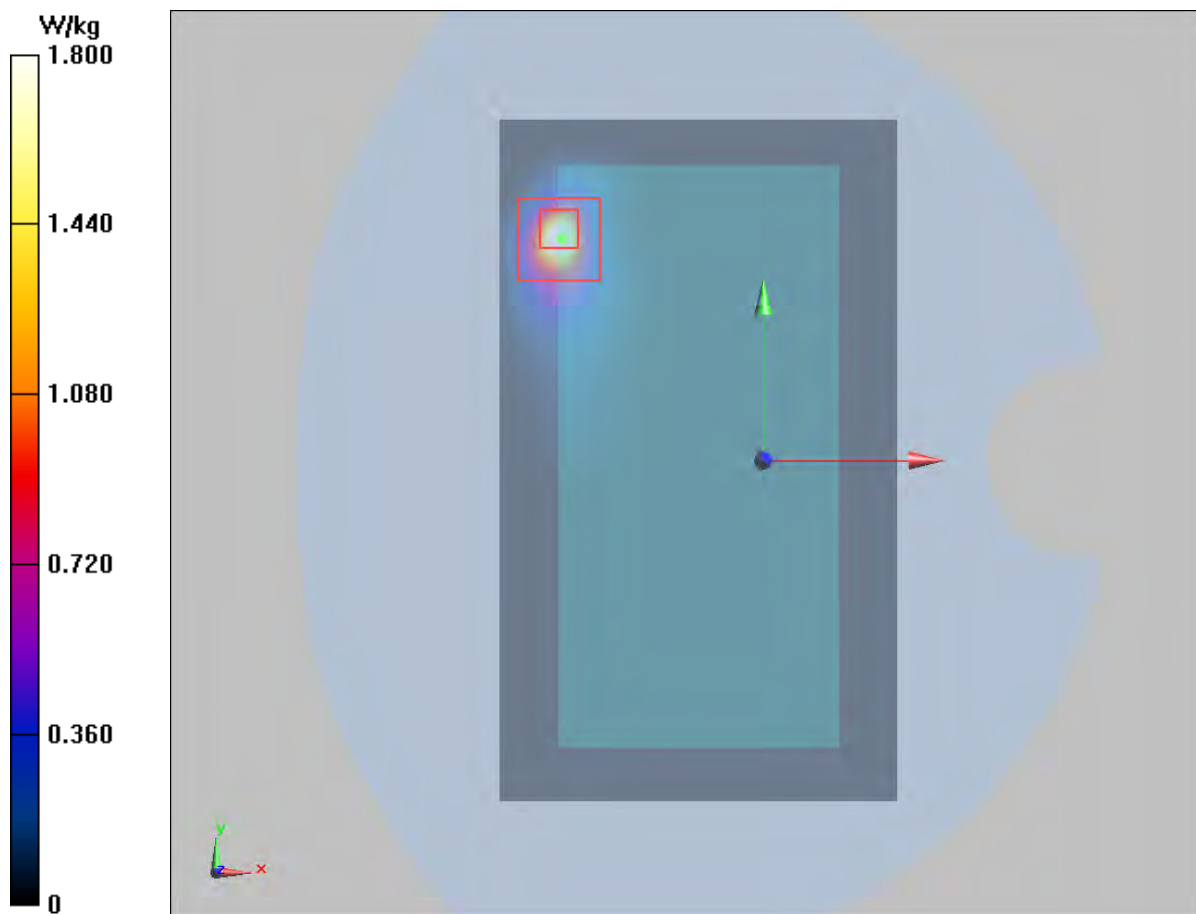
**Back Side Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 3.56 W/kg

**SAR(1 g) = 1.22 W/kg; SAR(10 g) = 0.345 W/kg**

Maximum value of SAR (measured) = 1.80 W/kg



# Plot 138 802.11a U-NII-1 Back Side CH36 (REC Off, Distance 10mm)

Date: 9/22/2017

Communication System: UID 0, 802.11a (0); Frequency: 5180 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5180$  MHz;  $\sigma = 5.29$  S/m;  $\epsilon_r = 48.113$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.173 W/kg

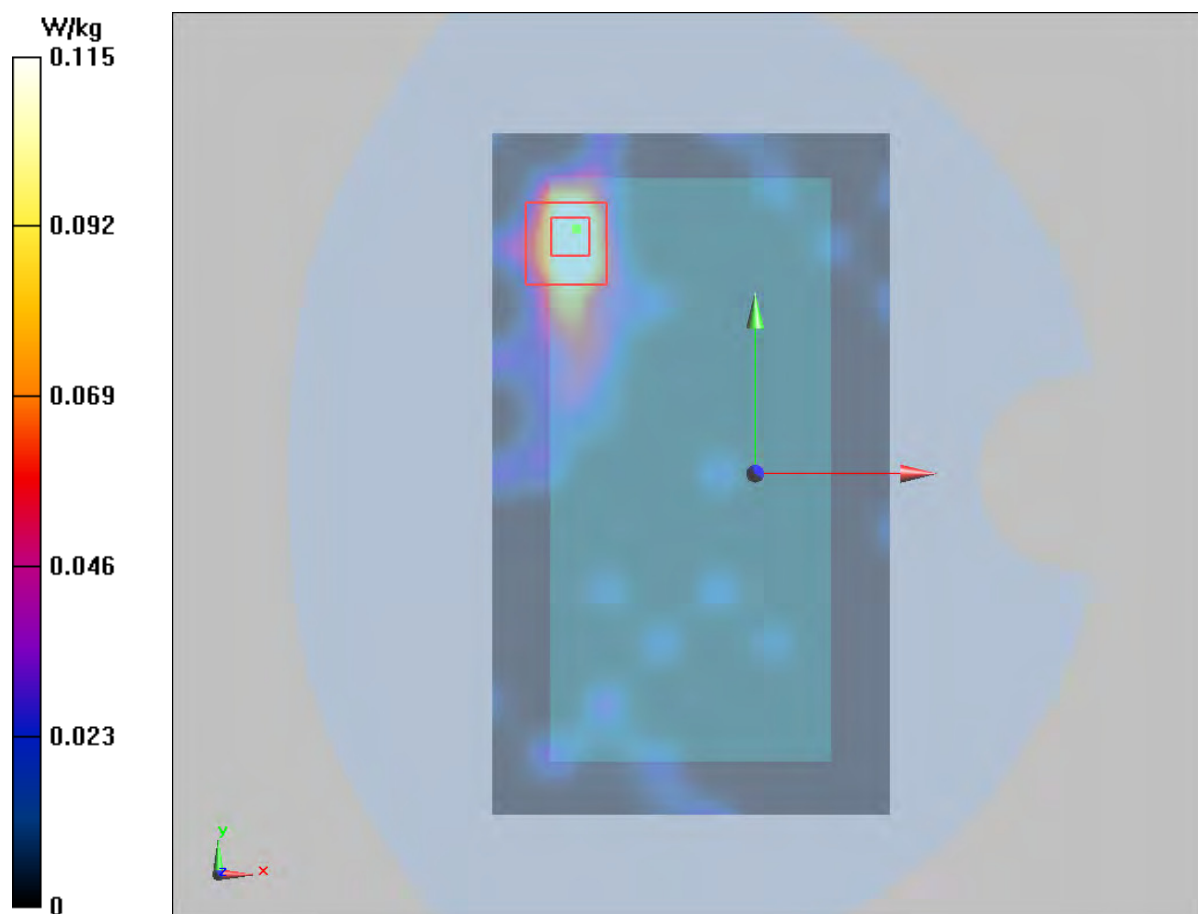
**Back Side Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.450 W/kg

**SAR(1 g) = 0.114 W/kg; SAR(10 g) = 0.041 W/kg**

Maximum value of SAR (measured) = 0.115 W/kg



# **Plot 139 802.11ac HT80 U-NII-2C Left Cheek CH106 (REC On, Battery 3)**

Date: 9/24/2017

Communication System: UID 0, 802.11ac (0); Frequency: 5530 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5530$  MHz;  $\sigma = 5.109$  S/m;  $\epsilon_r = 35.234$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.99, 4.99, 4.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.635 W/kg

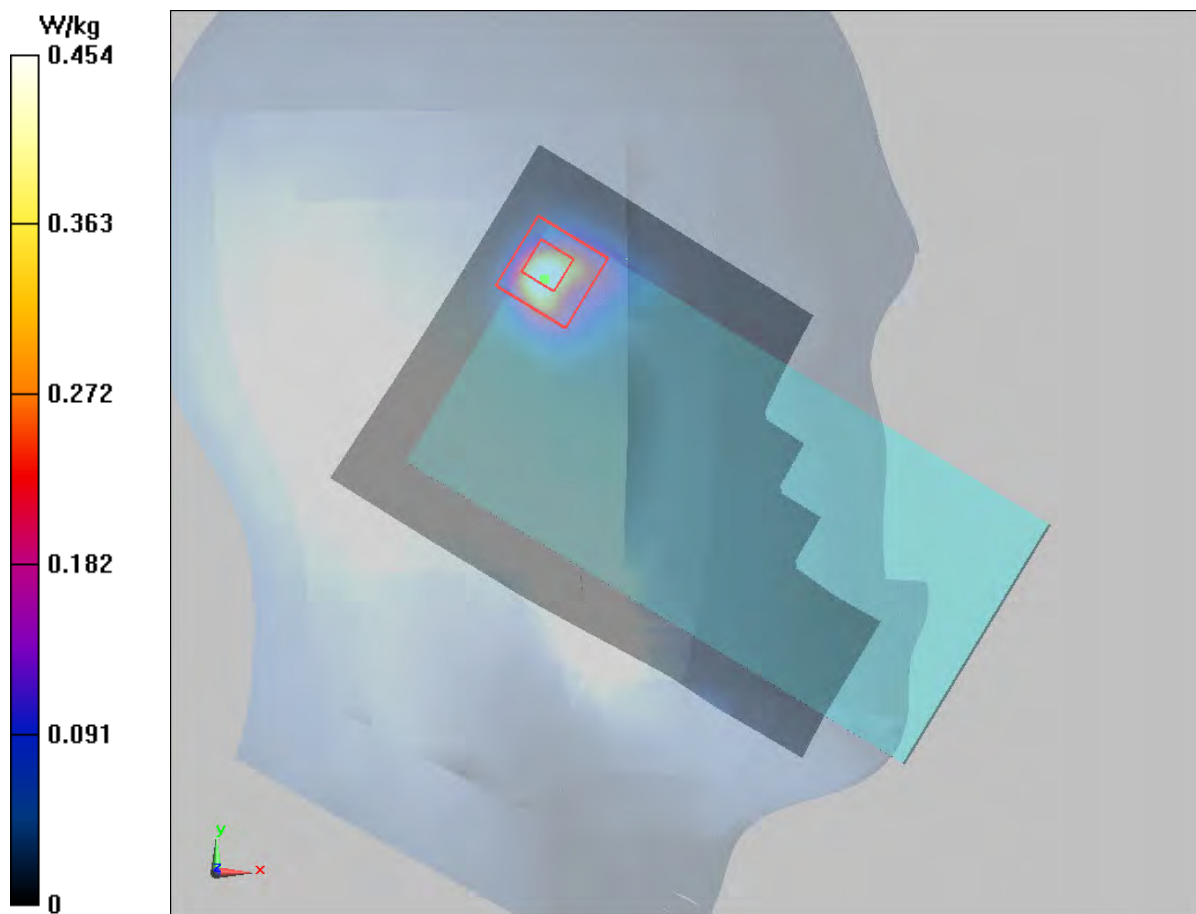
**Left Cheek Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.6800 V/m; Power Drift = 0.055 dB

Peak SAR (extrapolated) = 1.25 W/kg

**SAR(1 g) = 0.398 W/kg; SAR(10 g) = 0.120 W/kg**

Maximum value of SAR (measured) = 0.454 W/kg



# Plot 140 802.11a U-NII-2C Back Side CH140 (REC Off, Distance 15mm)

Date: 9/26/2017

Communication System: UID 0, 802.11a (0); Frequency: 5700 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5700$  MHz;  $\sigma = 5.986$  S/m;  $\epsilon_r = 47.873$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.210 W/kg

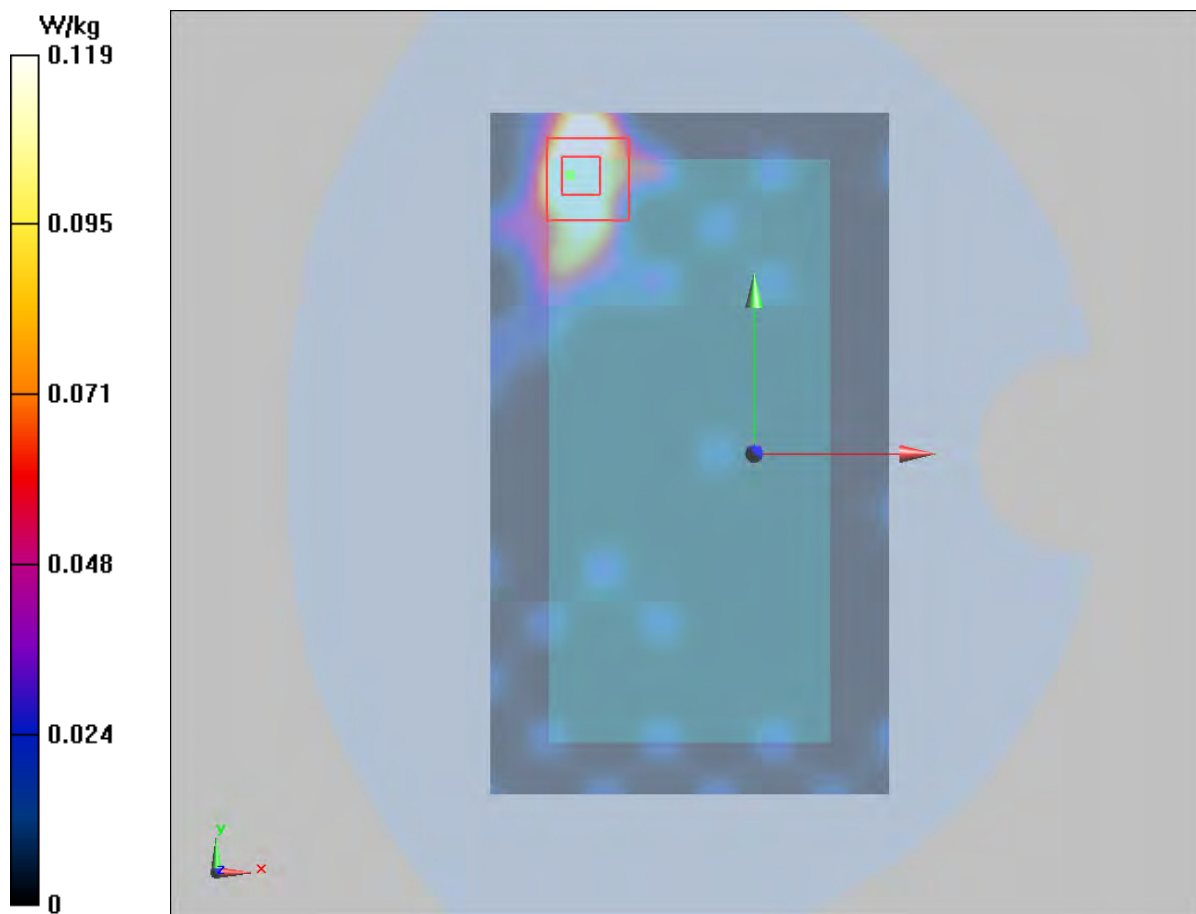
**Back Side High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.671 W/kg

**SAR(1 g) = 0.142 W/kg; SAR(10 g) = 0.053 W/kg**

Maximum value of SAR (measured) = 0.119 W/kg



# Plot 141 802.11a U-NII-2C Back Side CH140 (REC Off, Distance 0mm)

Date: 9/26/2017

Communication System: UID 0, 802.11a (0); Frequency: 5700 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5700$  MHz;  $\sigma = 5.986$  S/m;  $\epsilon_r = 47.873$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 2.48 W/kg

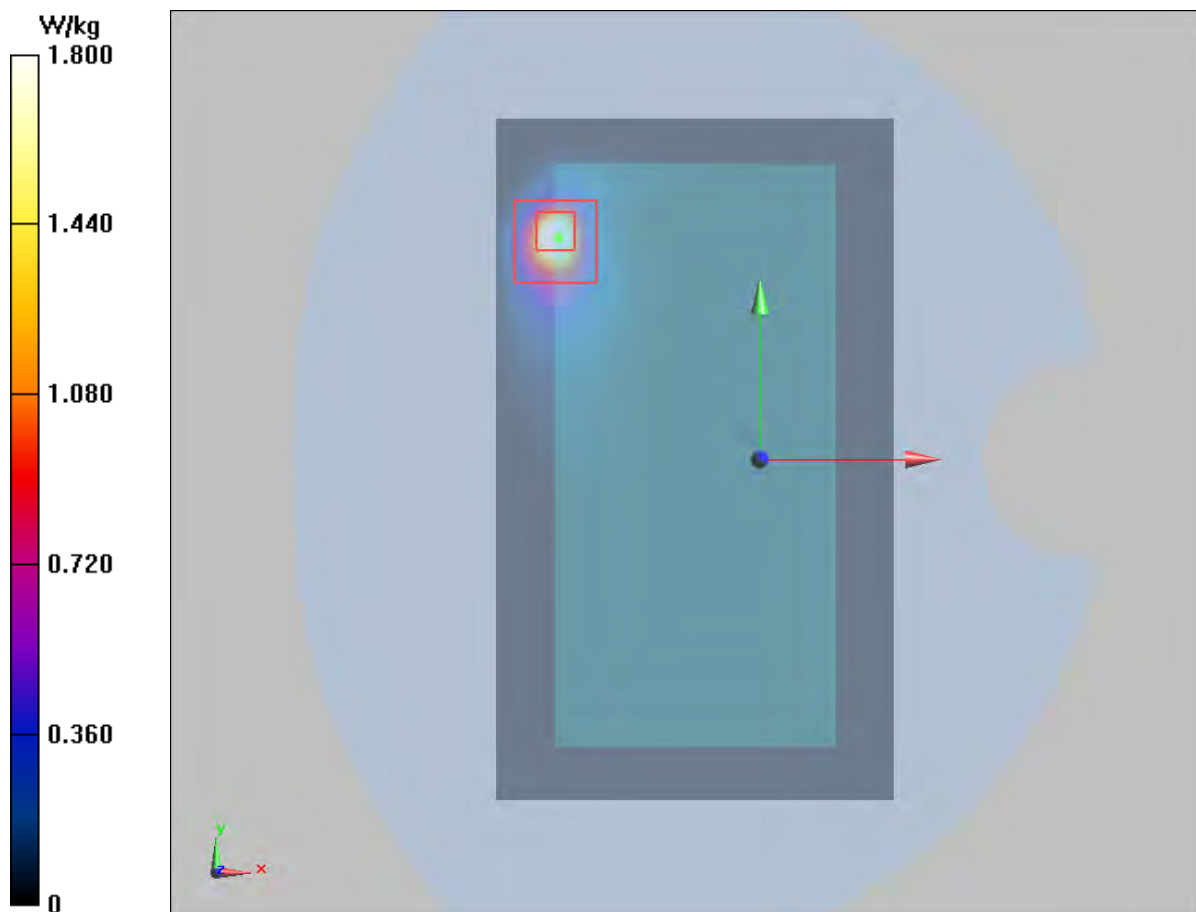
**Back Side High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 4.17 W/kg

**SAR(1 g) = 1.36 W/kg; SAR(10 g) = 0.388 W/kg**

Maximum value of SAR (measured) = 1.80 W/kg



# **Plot 142 802.11ac HT80 U-NII-3 Left Cheek CH155 (REC On, Battery 2)**

Date: 9/25/2017

Communication System: UID 0, 802.11ac (0); Frequency: 5775 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5775$  MHz;  $\sigma = 5.428$  S/m;  $\epsilon_r = 34.617$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.00, 5.00, 5.00); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek High/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.615 W/kg

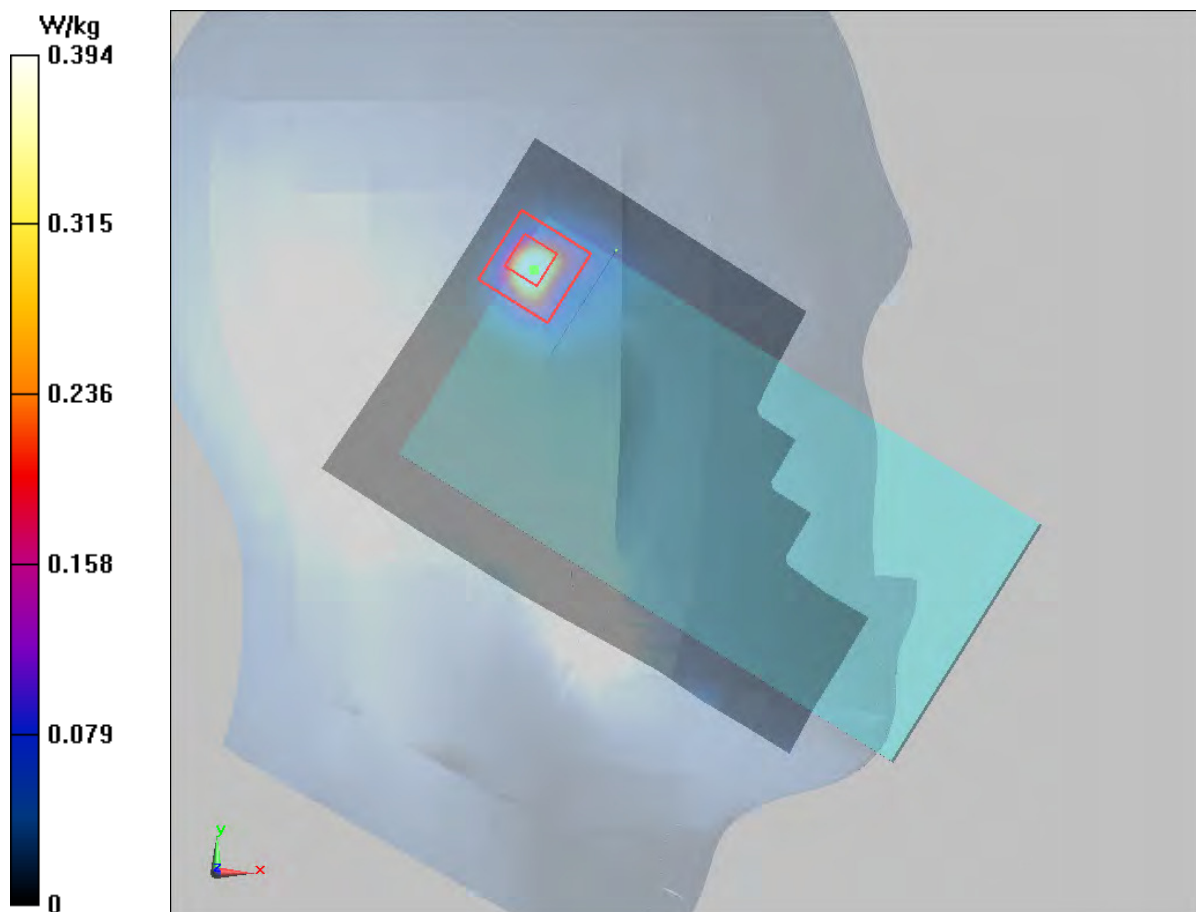
**Left Cheek High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 1.239 V/m; Power Drift = 0.033 dB

Peak SAR (extrapolated) = 1.14 W/kg

**SAR(1 g) = 0.332 W/kg; SAR(10 g) = 0.094 W/kg**

Maximum value of SAR (measured) = 0.394 W/kg





# Plot 143 802.11a U-NII-3 Back Side CH165 (REC Off, Distance 15mm)

Date: 9/26/2017

Communication System: UID 0, 802.11a (0); Frequency: 5825 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5825$  MHz;  $\sigma = 6.174$  S/m;  $\epsilon_r = 47.504$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.234 W/kg

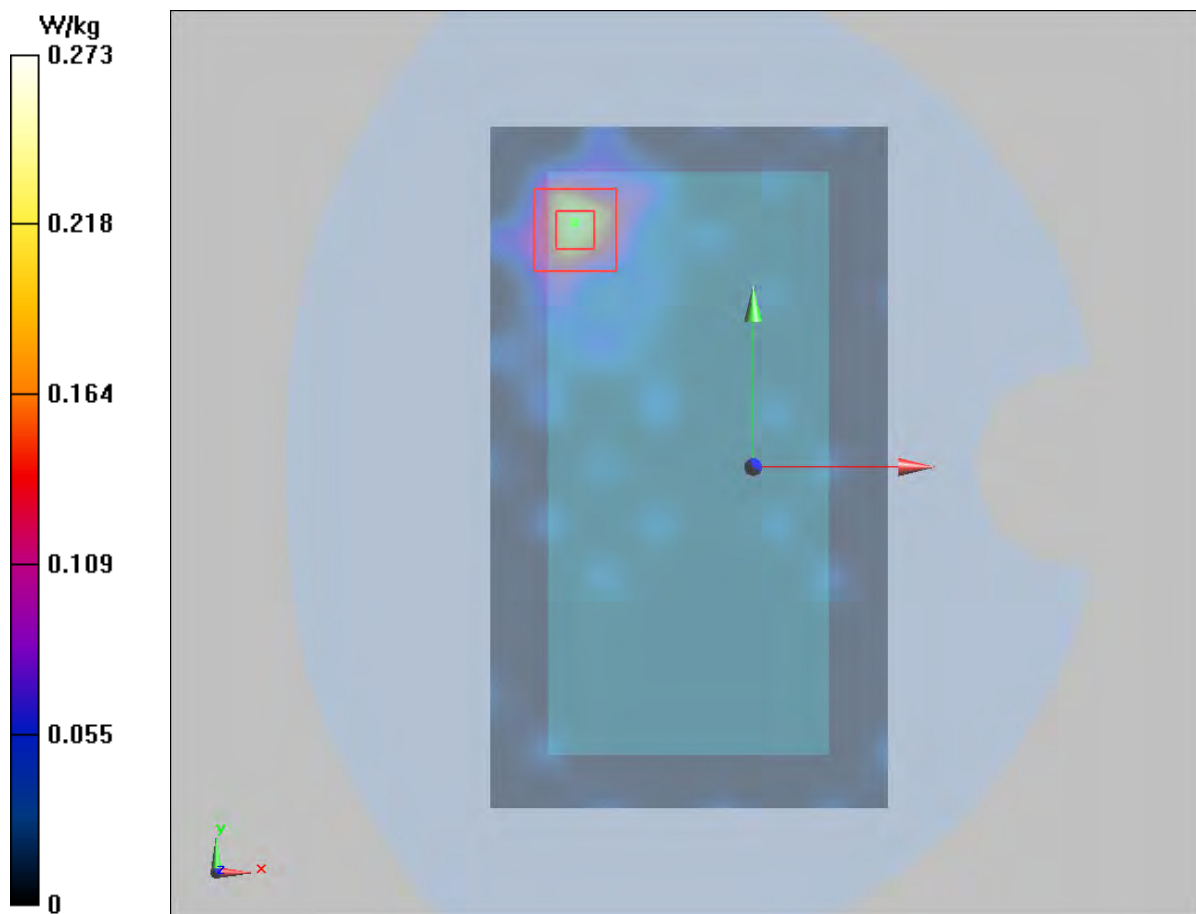
**Back Side High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.961 W/kg

**SAR(1 g) = 0.203 W/kg; SAR(10 g) = 0.075 W/kg**

Maximum value of SAR (measured) = 0.273 W/kg





# **Plot 144 802.11a U-NII-3 Back Side CH165 (REC Off, Distance 10mm)**

Date: 9/26/2017

Communication System: UID 0, 802.11a (0); Frequency: 5825 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5825$  MHz;  $\sigma = 6.174$  S/m;  $\epsilon_r = 47.504$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.254 W/kg

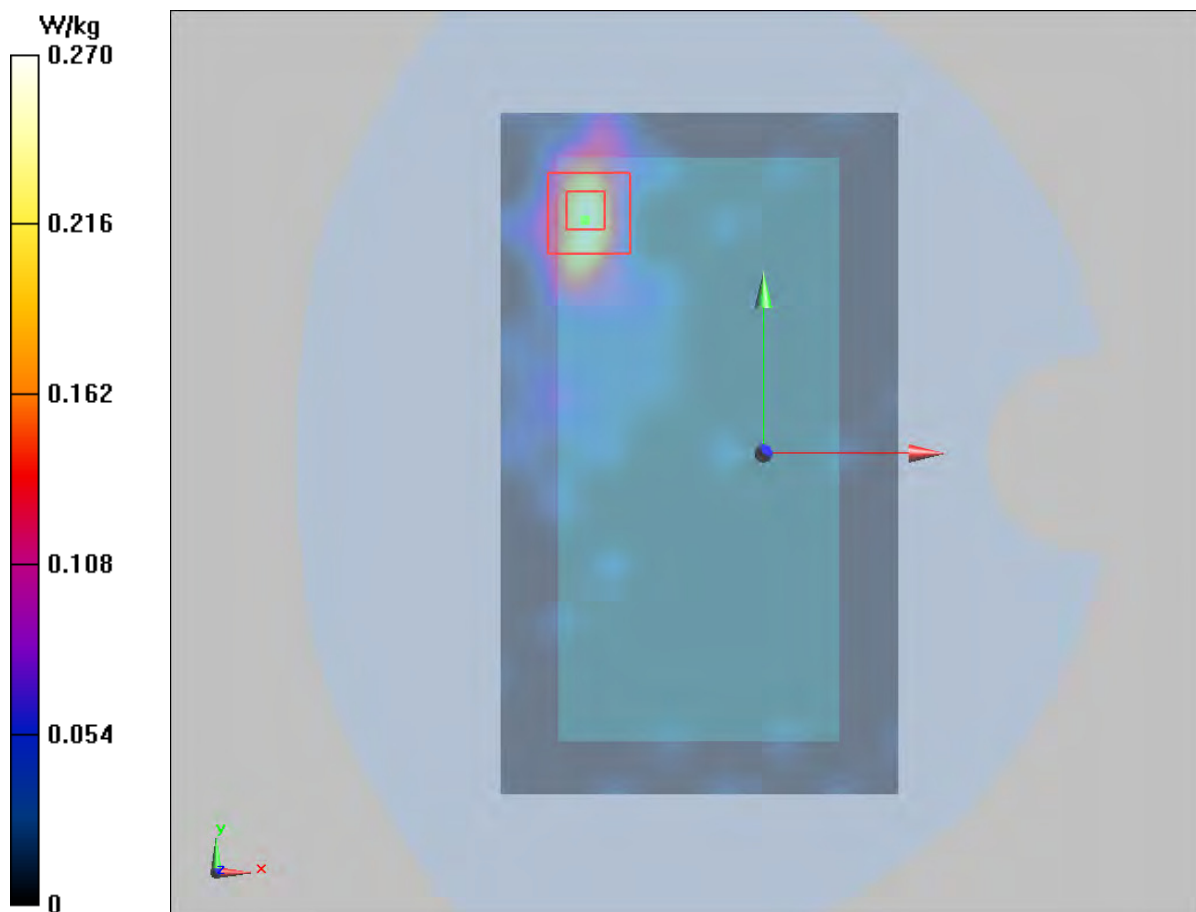
**Back Side High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.7120 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.986 W/kg

**SAR(1 g) = 0.180 W/kg; SAR(10 g) = 0.080 W/kg**

Maximum value of SAR (measured) = 0.270 W/kg



## Wi-Fi Antenna 2

### Plot 145 802.11ac HT80 U-NII-2A Left Cheek CH56 (REC On)

Date: 9/24/2017

Communication System: UID 0, 802.11a (0); Frequency: 5280 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5280$  MHz;  $\sigma = 4.79$  S/m;  $\epsilon_r = 35.88$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.66, 5.66, 5.66); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.453 W/kg

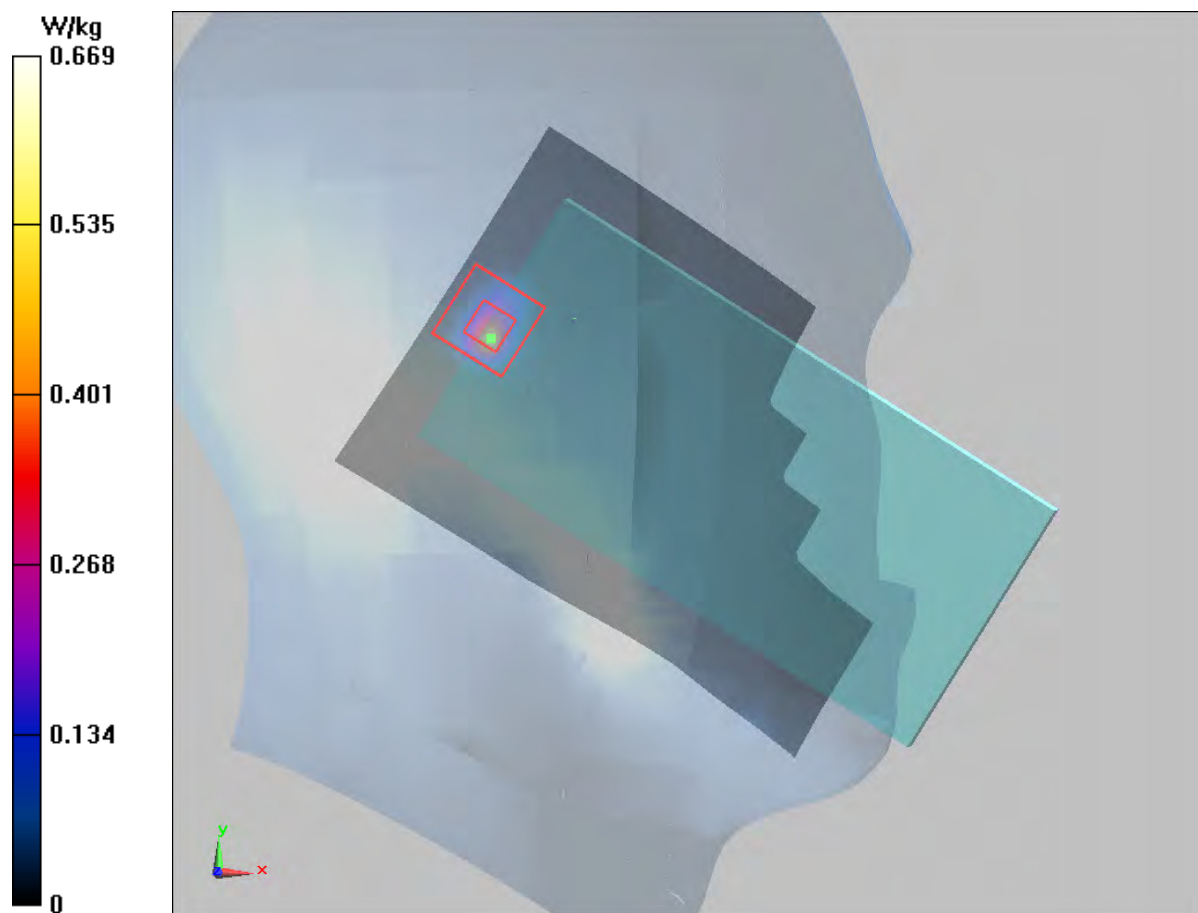
**Left Cheek Middle/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 7.938 V/m; Power Drift = 0.192 dB

Peak SAR (extrapolated) = 1.38 W/kg

**SAR(1 g) = 0.347 W/kg; SAR(10 g) = 0.098 W/kg**

Maximum value of SAR (measured) = 0.669 W/kg



# Plot 146 802.11a U-NII-2A Back Side CH64 (REC Off, Distance 15mm)

Date: 9/22/2017

Communication System: UID 0, 802.11a (0); Frequency: 5320 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 5.518$  S/m;  $\epsilon_r = 46.537$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0473 W/kg

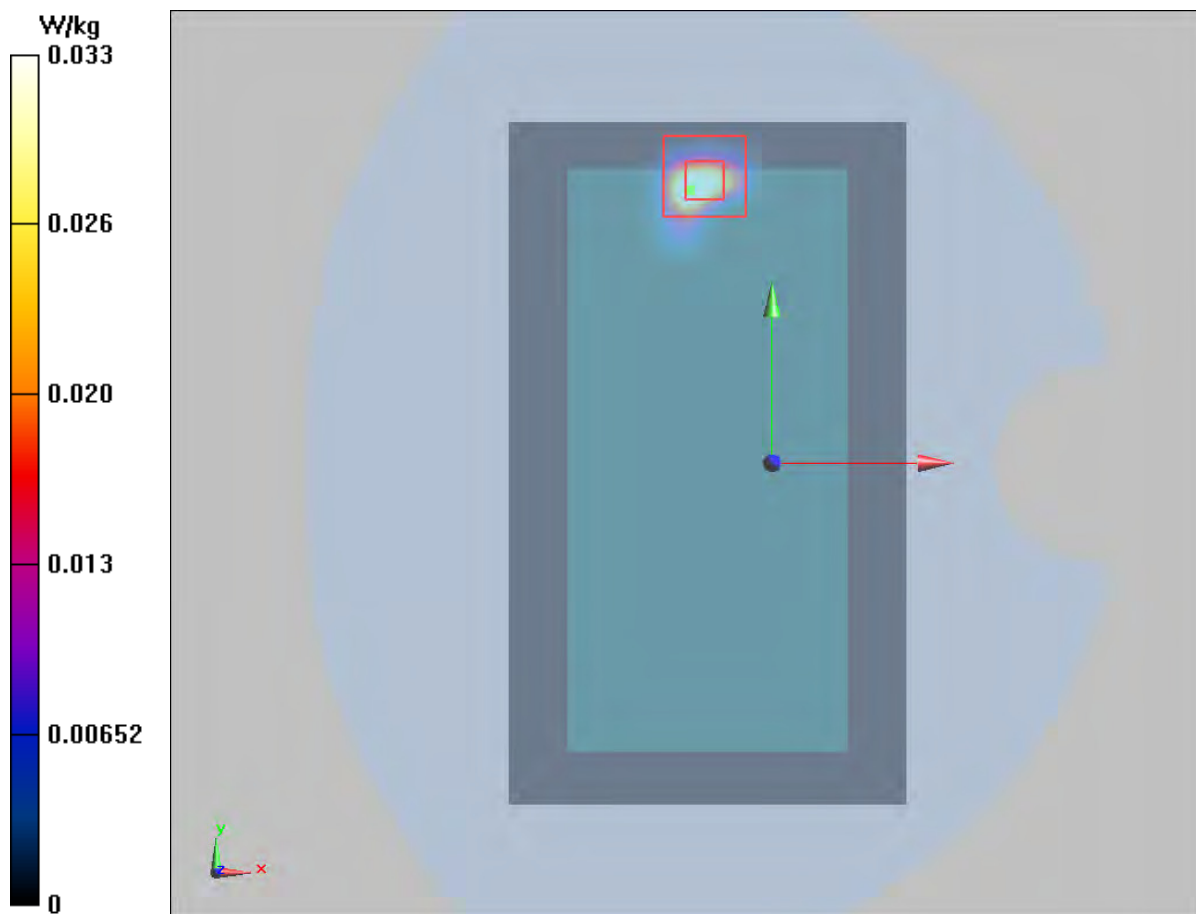
**Back Side High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.128 W/kg

**SAR(1 g) = 0.027 W/kg; SAR(10 g) = 0.00518 W/kg**

Maximum value of SAR (measured) = 0.033 W/kg



# Plot 147 802.11a U-NII-2A Back Side CH64 (REC Off, Distance 0mm)

Date: 9/22/2017

Communication System: UID 0, 802.11a (0); Frequency: 5320 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5320$  MHz;  $\sigma = 5.518$  S/m;  $\epsilon_r = 46.537$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side High/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.795 W/kg

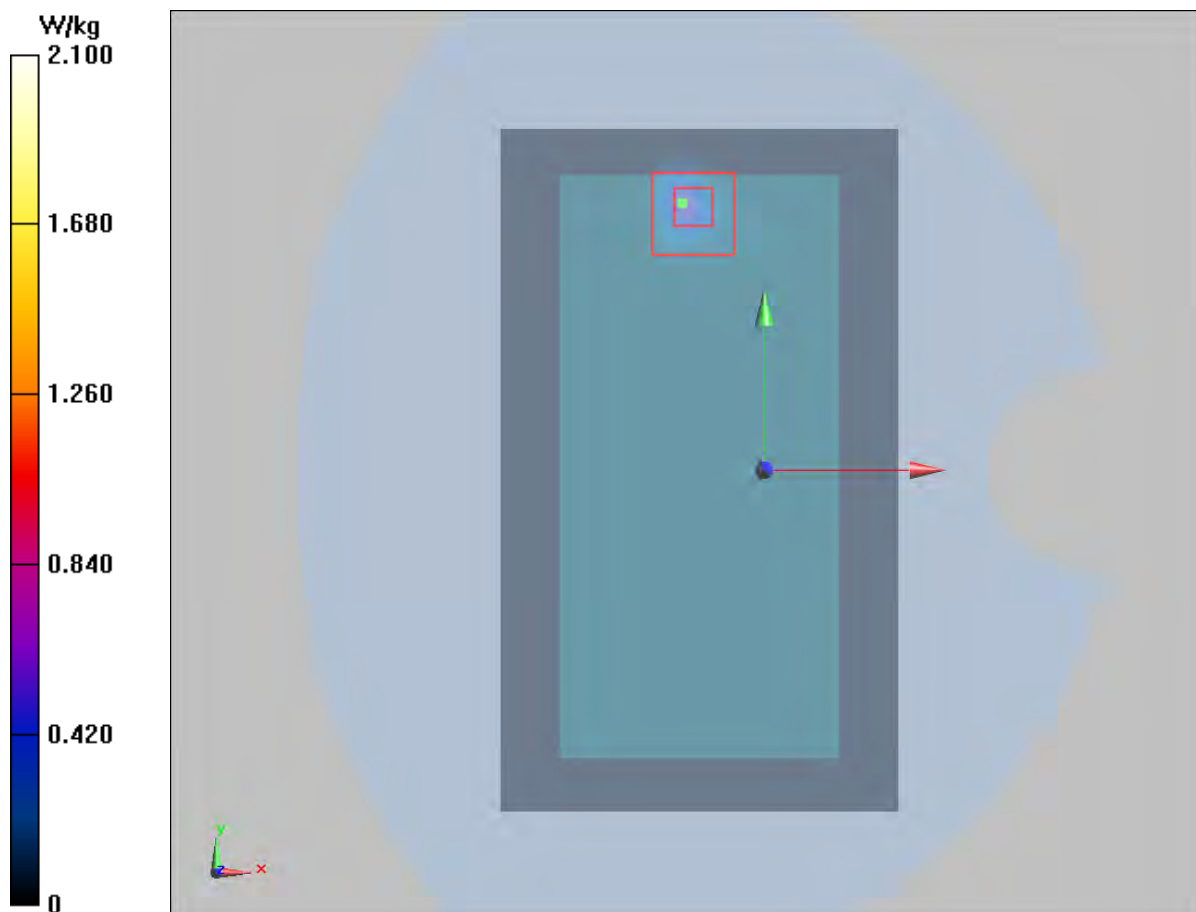
**Back Side High/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 3.93 W/kg

**SAR(1 g) = 1.21 W/kg; SAR(10 g) = 0.239 W/kg**

Maximum value of SAR (measured) = 2.10 W/kg



# Plot 148 802.11a U-NII-1 Back Side CH36 (REC Off, Distance 10mm)

Date: 9/22/2017

Communication System: UID 0, 802.11a (0); Frequency: 5180 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5180$  MHz;  $\sigma = 5.29$  S/m;  $\epsilon_r = 48.113$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.03, 5.03, 5.03); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.0708 W/kg

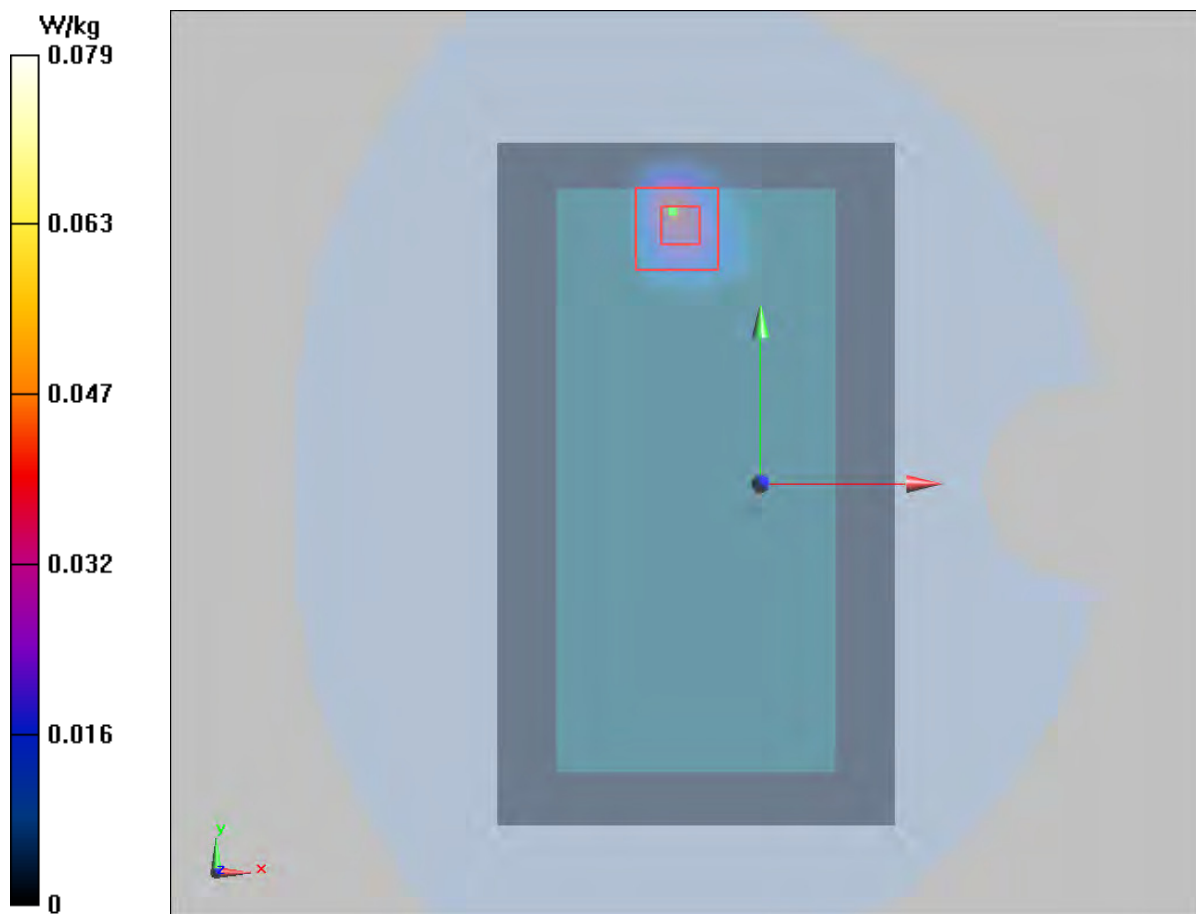
**Back Side Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 0.301 W/kg

**SAR(1 g) = 0.063 W/kg; SAR(10 g) = 0.014 W/kg**

Maximum value of SAR (measured) = 0.0788 W/kg



# Plot 149 802.11a U-NII-2C Right Cheek CH100 (REC On, Battery 3)

Date: 9/24/2017

Communication System: UID 0, 802.11a (0); Frequency: 5500 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5500$  MHz;  $\sigma = 5.071$  S/m;  $\epsilon_r = 35.318$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.99, 4.99, 4.99); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.751 W/kg

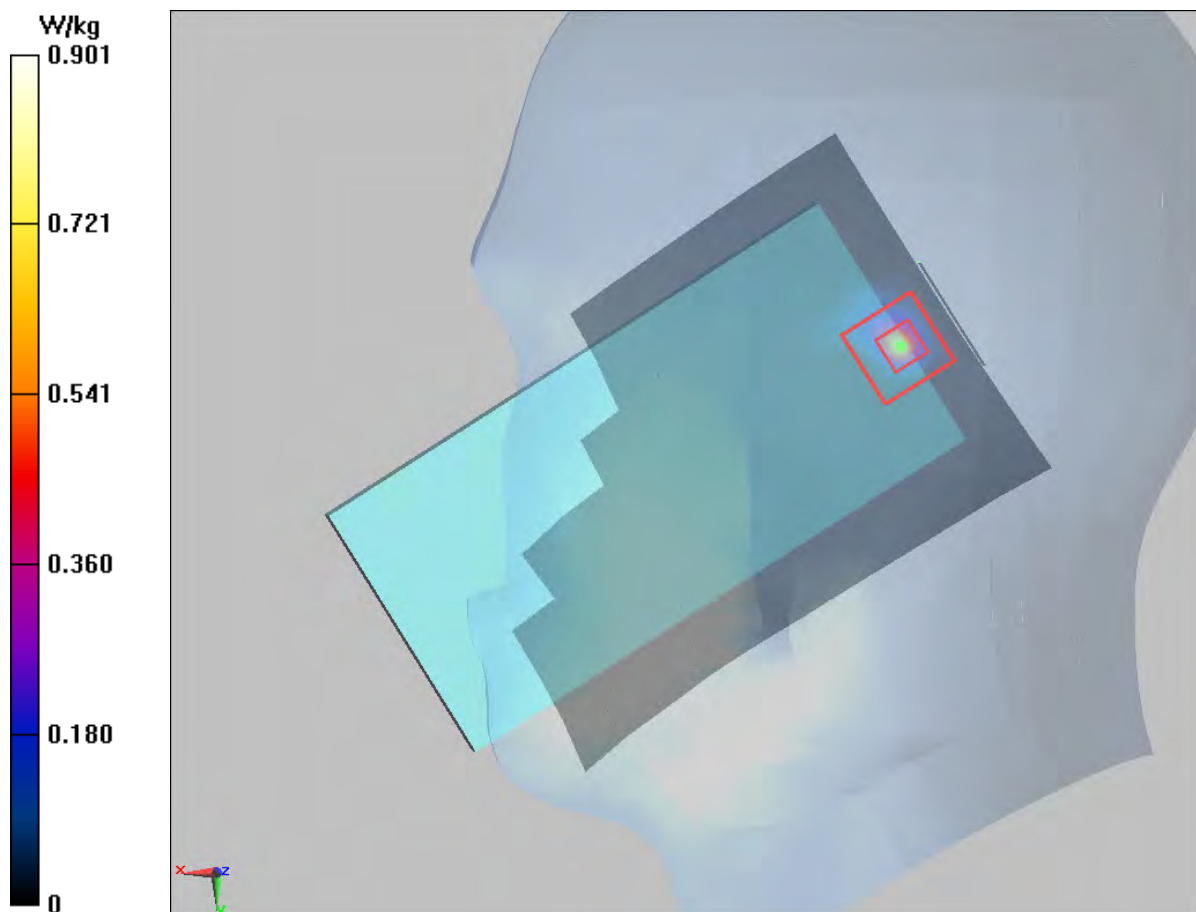
**Right Cheek Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 9.814 V/m; Power Drift = -0.197 dB

Peak SAR (extrapolated) = 1.67 W/kg

**SAR(1 g) = 0.371 W/kg; SAR(10 g) = 0.096 W/kg**

Maximum value of SAR (measured) = 0.901 W/kg





# **Plot 150 802.11a U-NII-2C Back Side CH116 (REC Off, Distance 15mm)**

Date: 9/23/2017

Communication System: UID 0, 802.11a (0); Frequency: 5580 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5580$  MHz;  $\sigma = 5.924$  S/m;  $\epsilon_r = 47.551$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.34, 4.34, 4.34); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.530 W/kg

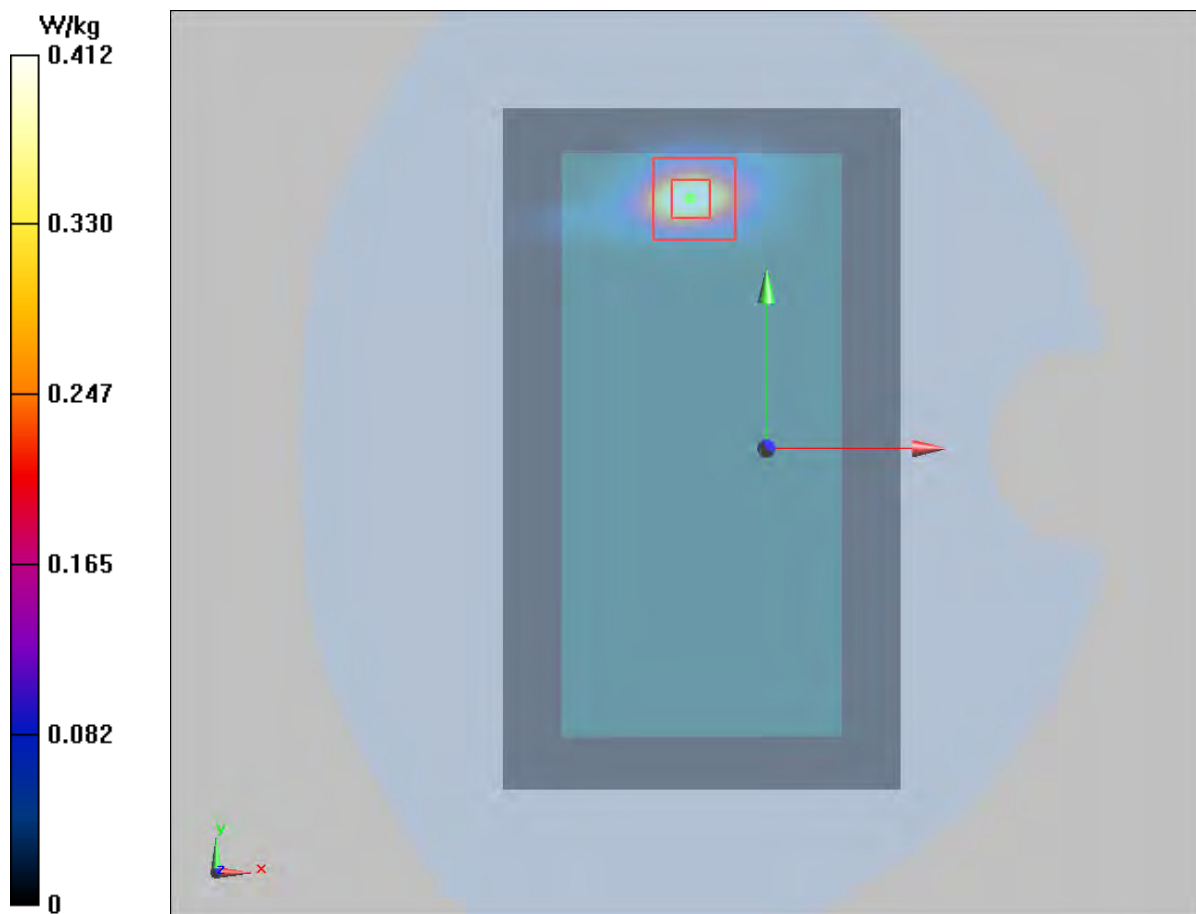
**Back Side Middle/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 1.24 W/kg

**SAR(1 g) = 0.333 W/kg; SAR(10 g) = 0.099 W/kg**

Maximum value of SAR (measured) = 0.412 W/kg





# Plot 151 802.11a U-NII-2C Back Side CH116 (REC Off, Distance 0mm)

Date: 9/23/2017

Communication System: UID 0, 802.11a (0); Frequency: 5580 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5580$  MHz;  $\sigma = 5.924$  S/m;  $\epsilon_r = 47.551$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.34, 4.34, 4.34); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Middle/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 1.708 W/kg

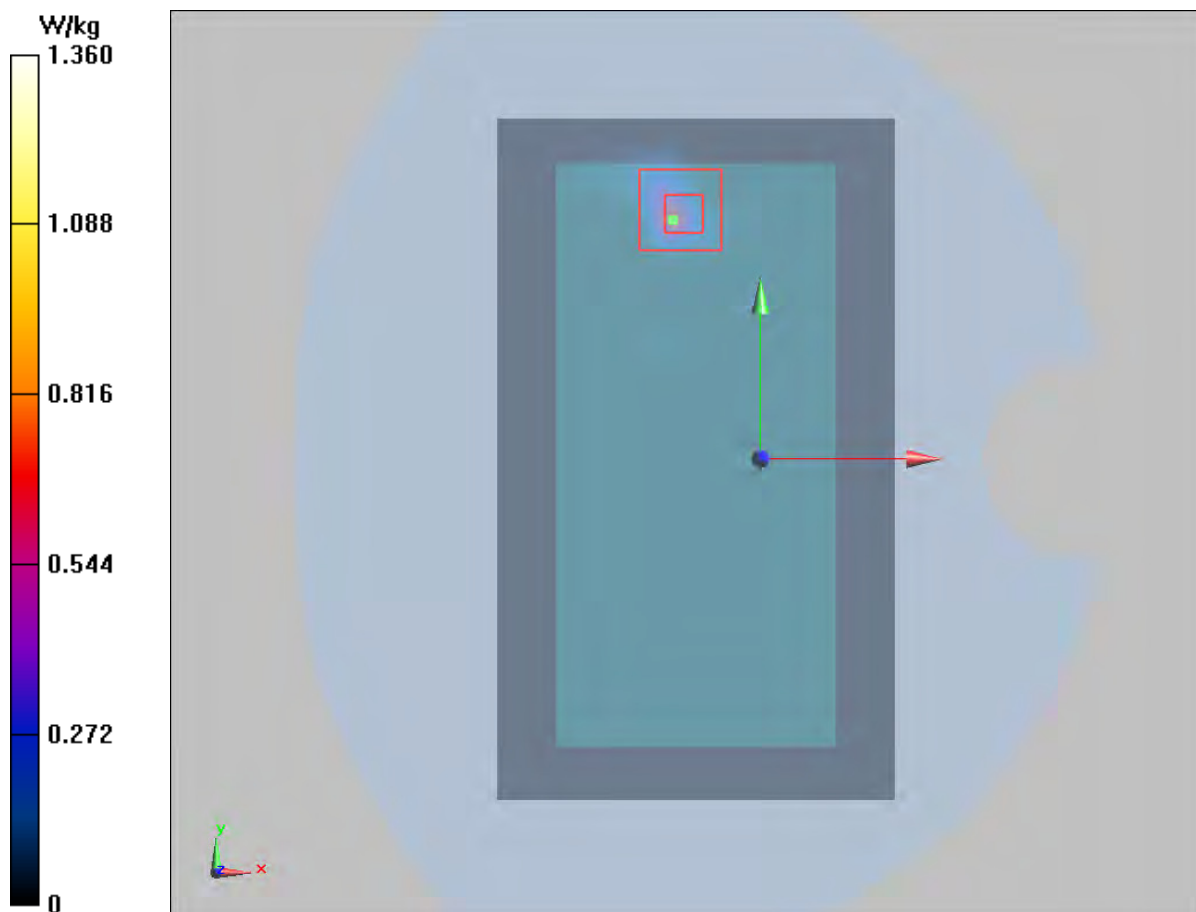
**Back Side Middle/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0 V/m; Power Drift = 0.00 dB

Peak SAR (extrapolated) = 3.37 W/kg

**SAR(1 g) = 1.08 W/kg; SAR(10 g) = 0.266 W/kg**

Maximum value of SAR (measured) = 1.36 W/kg



# **Plot 152 802.11a U-NII-3 Right Cheek CH149 (REC On, Battery 2)**

Date: 9/25/2017

Communication System: UID 0, 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5745$  MHz;  $\sigma = 5.385$  S/m;  $\epsilon_r = 34.693$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Right Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(5.00, 5.00, 5.00); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Right Cheek Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.302 W/kg

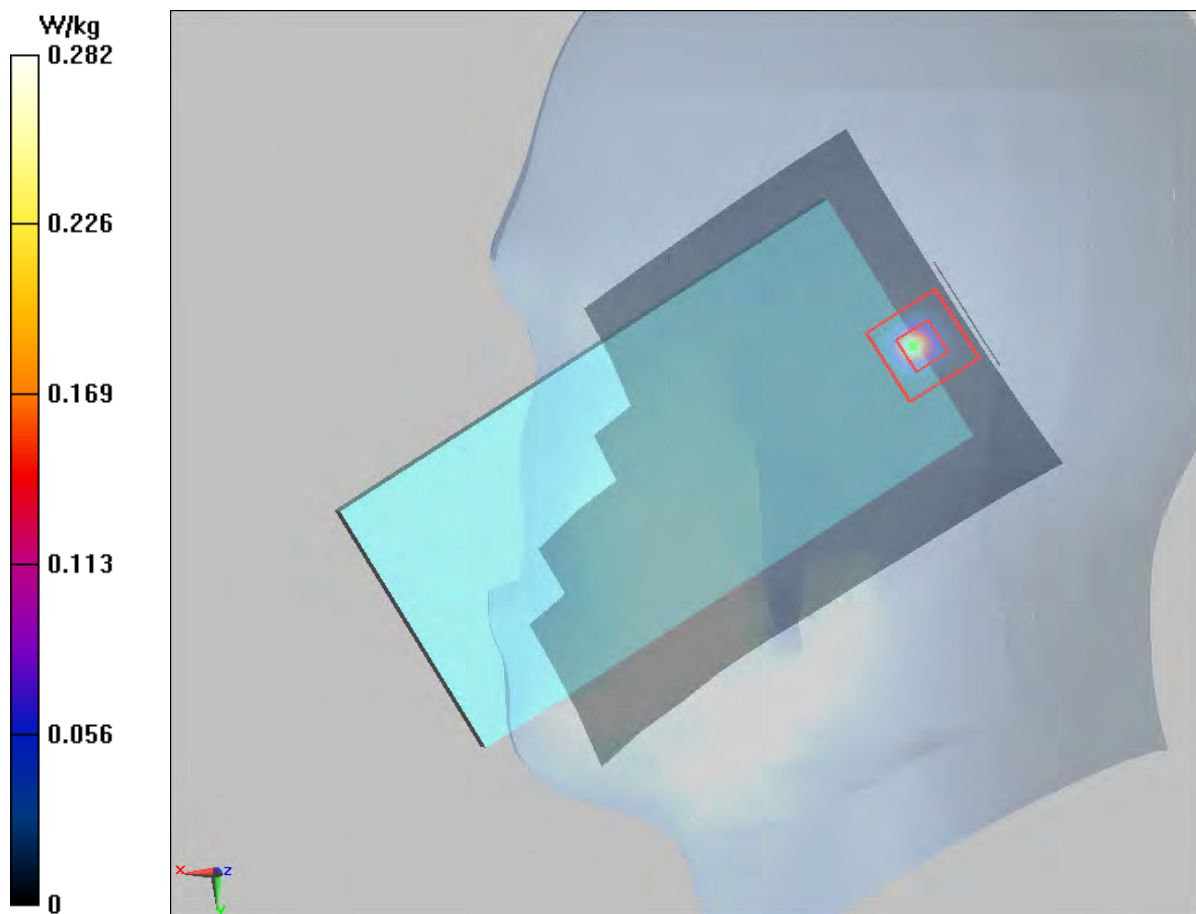
**Right Cheek Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 3.813 V/m; Power Drift = -0.116 dB

Peak SAR (extrapolated) = 0.678 W/kg

**SAR(1 g) = 0.164 W/kg; SAR(10 g) = 0.032 W/kg**

Maximum value of SAR (measured) = 0.282 W/kg



# **Plot 153 802.11a U-NII-3 Back Side CH149 (REC Off, Distance 15mm)**

Date: 9/26/2017

Communication System: UID 0, 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5745$  MHz;  $\sigma = 6.06$  S/m;  $\epsilon_r = 47.742$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C      Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (111x181x1):** Interpolated grid: dx=1.000 mm, dy=1.000 mm

Maximum value of SAR (interpolated) = 0.177 W/kg

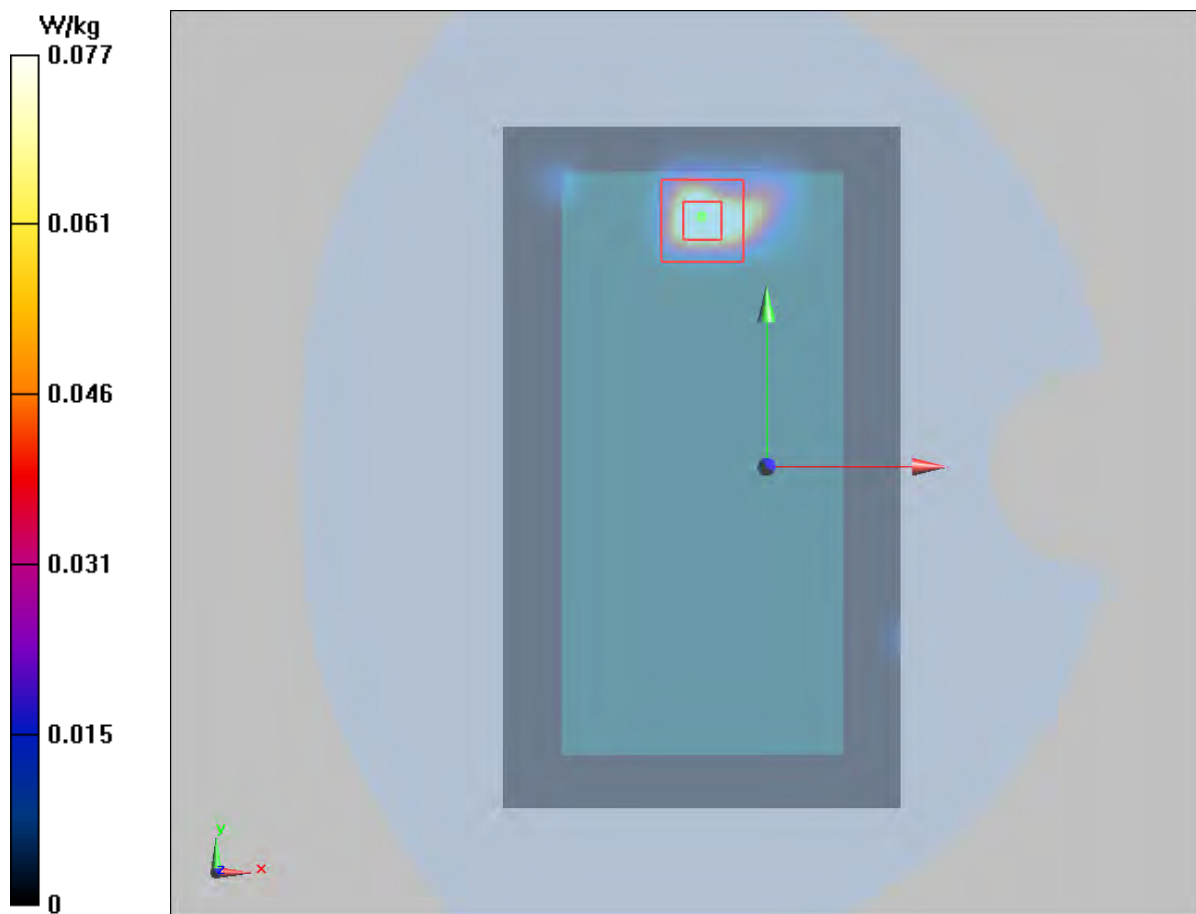
**Back Side Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid: dx=4mm, dy=4mm, dz=2mm

Reference Value = 0.2780 V/m; Power Drift = 0.011 dB

Peak SAR (extrapolated) = 0.360 W/kg

**SAR(1 g) = 0.075 W/kg; SAR(10 g) = 0.021 W/kg**

Maximum value of SAR (measured) = 0.077 W/kg



# **Plot 154 802.11a U-NII-3 Back Side CH149 (REC Off, Distance 10mm)**

Date: 9/26/2017

Communication System: UID 0, 802.11a (0); Frequency: 5745 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 5745 \text{ MHz}$ ;  $\sigma = 6.06 \text{ S/m}$ ;  $\epsilon_r = 47.742$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.3^\circ\text{C}$  Liquid Temperature:  $21.5^\circ\text{C}$

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 1.4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN3677; ConvF(4.52, 4.52, 4.52); Calibrated: 1/23/2017;

Electronics: DAE4 Sn1291; Calibrated: 1/19/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Back Side Low/Area Scan (111x181x1):** Interpolated grid:  $dx=1.000 \text{ mm}$ ,  $dy=1.000 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.191 \text{ W/kg}$

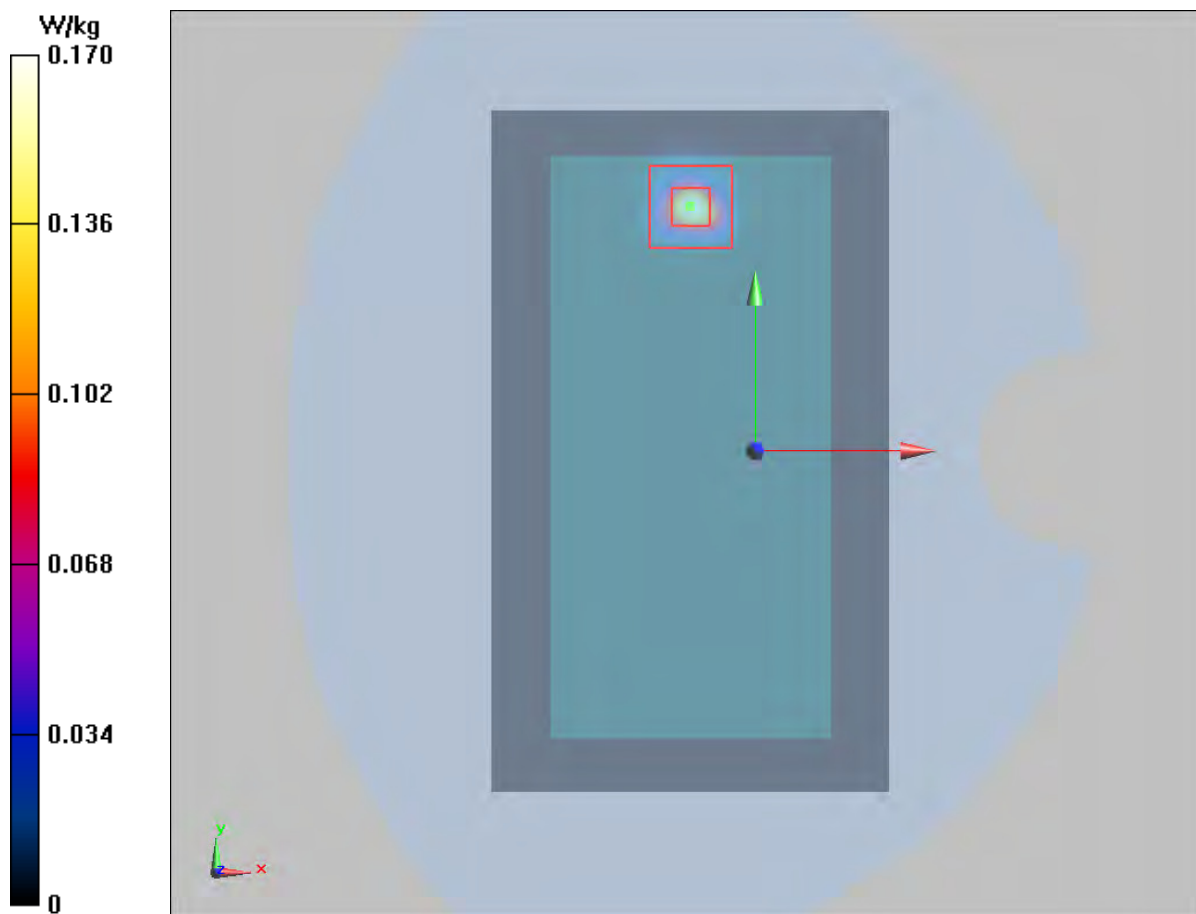
**Back Side Low/Zoom Scan (7x7x11)/Cube 0:** Measurement grid:  $dx=4\text{mm}$ ,  $dy=4\text{mm}$ ,  $dz=2\text{mm}$

Reference Value =  $0 \text{ V/m}$ ; Power Drift =  $0.00 \text{ dB}$

Peak SAR (extrapolated) =  $0.597 \text{ W/kg}$

**SAR(1 g) =  $0.120 \text{ W/kg}$ ; SAR(10 g) =  $0.027 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.170 \text{ W/kg}$



## Plot 155 BT Left Cheek Middle (REC On)

Date: 9/25/2017

Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2441$  MHz;  $\sigma = 1.833$  S/m;  $\epsilon_r = 40.901$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Left Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 – SN7351; ConvF(7.64, 7.64, 7.64); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Left Cheek Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.434 W/kg

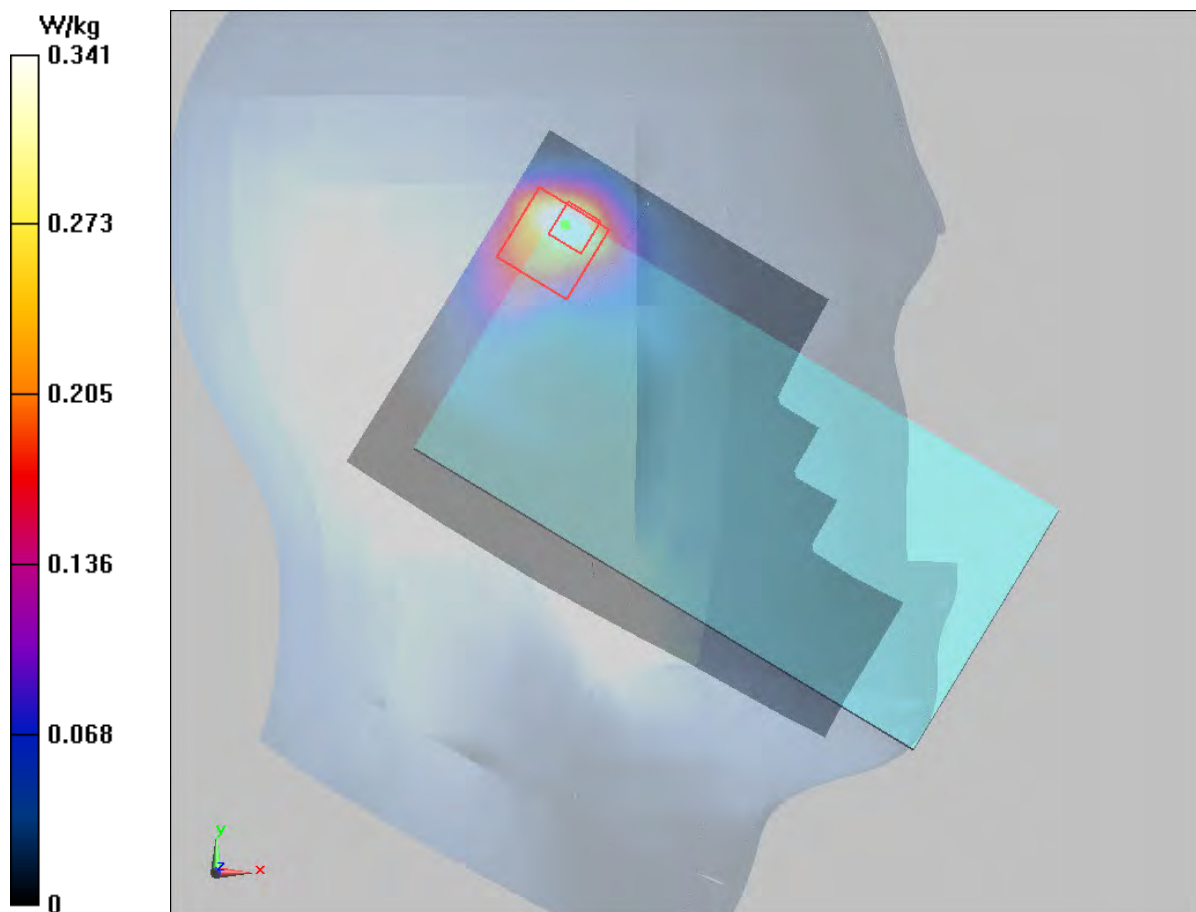
**Left Cheek Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 5.115 V/m; Power Drift = 0.105 dB

Peak SAR (extrapolated) = 0.825 W/kg

**SAR(1 g) = 0.294 W/kg; SAR(10 g) = 0.132 W/kg**

Maximum value of SAR (measured) = 0.341 W/kg



# Plot 156 BT Front Side Middle (REC Off, Distance 10mm)

Date: 9/23/2017

Communication System: UID 0, Bluetooth (0); Frequency: 2441 MHz; Duty Cycle: 1:1

Medium parameters used:  $f = 2441$  MHz;  $\sigma = 1.948$  S/m;  $\epsilon_r = 51.675$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.3 °C Liquid Temperature: 21.5 °C

Phantom section: Flat Section

DASY5 Configuration:

Sensor-Surface: 4mm (Mechanical Surface Detection)

Probe: EX3DV4 - SN7351; ConvF(7.73, 7.73, 7.73); Calibrated: 12/20/2016;

Electronics: DAE4 - SD 000 D04 BK - SN918; Calibrated: 6/26/2017

Phantom: SAM 2; Type: SAM;

Measurement SW: DASY52, Version 52.8 (8); SEMCAD X Version 14.6.10 (7331)

**Front Side Middle/Area Scan (91x151x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.0706 W/kg

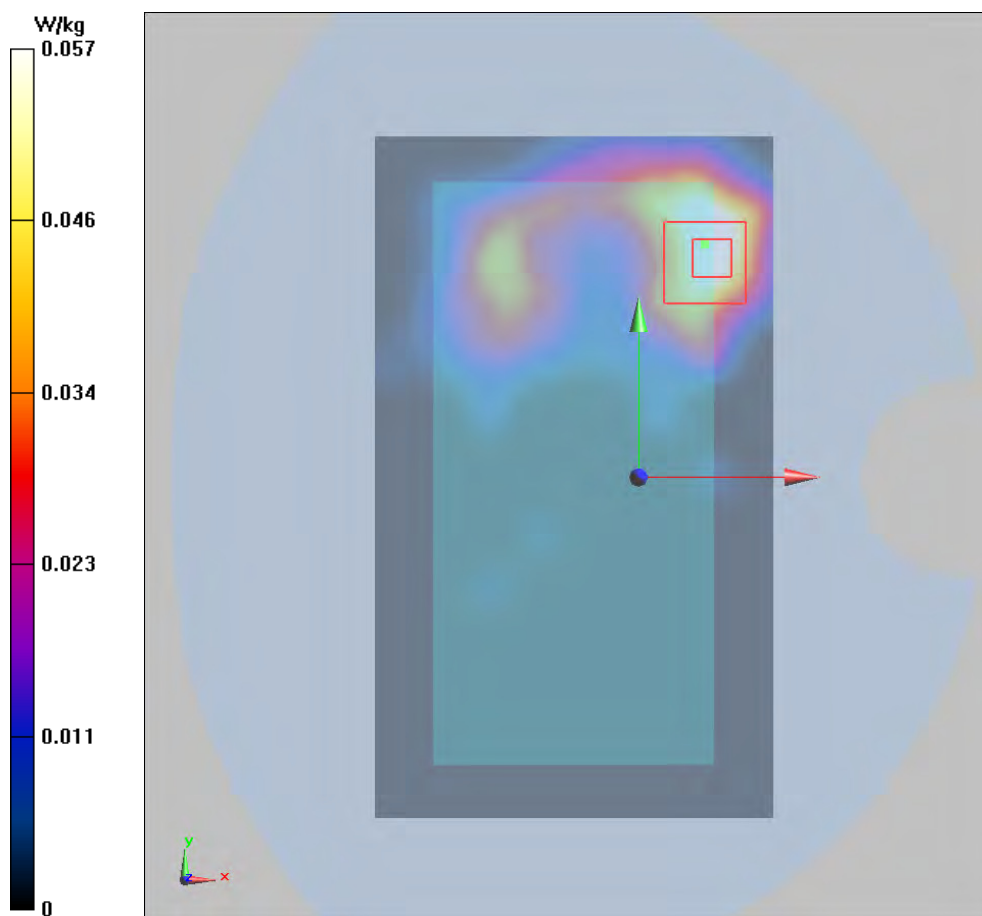
**Front Side Middle/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.8360 V/m; Power Drift = -0.04dB

Peak SAR (extrapolated) = 0.0990 W/kg

**SAR(1 g) = 0.052 W/kg; SAR(10 g) = 0.024 W/kg**

Maximum value of SAR (measured) = 0.057 W/kg





**ANNEX D: Probe Calibration Certificate (SN: 3677)**

In Collaboration with  
**s p e a g**  
**CALIBRATION LABORATORY**



中国认可  
国际互认  
校准  
CALIBRATION  
CNAS L0570

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E-mail: cttl@chinattl.com Http://www.chinattl.cn

Client **TA(Shanghai)**Certificate No: **Z17-97012****CALIBRATION CERTIFICATE**Object **EX3DV4 - SN:3677**

Calibration Procedure(s) **FD-Z11-004-01**  
**Calibration Procedures for Dosimetric E-field Probes**

Calibration date: **January 23, 2017**

This calibration Certificate documents the traceability to national standards, which realize the physical units of measurements(SI). The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature(22±3)°C and humidity<70%.

Calibration Equipment used (M&amp;TE critical for calibration)

| Primary Standards       | ID #        | Cal Date(Calibrated by, Certificate No.) | Scheduled Calibration |
|-------------------------|-------------|------------------------------------------|-----------------------|
| Power Meter NRP2        | 101919      | 27-Jun-16 (CTTL, No.J16X04777)           | Jun-17                |
| Power sensor NRP-Z91    | 101547      | 27-Jun-16 (CTTL, No.J16X04777)           | Jun-17                |
| Power sensor NRP-Z91    | 101548      | 27-Jun-16 (CTTL, No.J16X04777)           | Jun-17                |
| Reference10dBAttenuator | 18N50W-10dB | 13-Mar-16(CTTL,No.J16X01547)             | Mar-18                |
| Reference20dBAttenuator | 18N50W-20dB | 13-Mar-16(CTTL, No.J16X01548)            | Mar-18                |
| Reference Probe EX3DV4  | SN 7433     | 26-Sep-16(SPEAG,No.EX3-7433_Sep16)       | Sep-17                |
| DAE4                    | SN 549      | 13-Dec-16(SPEAG, No.DAE4-549_Dec16)      | Dec -17               |
| Secondary Standards     | ID #        | Cal Date(Calibrated by, Certificate No.) | Scheduled Calibration |
| SignalGeneratorMG3700A  | 6201052605  | 27-Jun-16 (CTTL, No.J16X04776)           | Jun-17                |
| Network Analyzer E5071C | MY46110673  | 26-Jan-16 (CTTL, No.J16X00894)           | Jan -17               |

|                |             |                                   |           |
|----------------|-------------|-----------------------------------|-----------|
|                | Name        | Function                          | Signature |
| Calibrated by: | Yu Zongying | SAR Test Engineer                 |           |
| Reviewed by:   | Qi Dianyuan | SAR Project Leader                |           |
| Approved by:   | Lu Bingsong | Deputy Director of the laboratory |           |

Issued: January 24, 2017

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.

Certificate No: Z17-97012

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### Glossary:

|                       |                                                                                                                                             |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| TSL                   | tissue simulating liquid                                                                                                                    |
| NORM <sub>x,y,z</sub> | sensitivity in free space                                                                                                                   |
| ConvF                 | sensitivity in TSL / NORM <sub>x,y,z</sub>                                                                                                  |
| DCP                   | diode compression point                                                                                                                     |
| CF                    | crest factor (1/duty_cycle) of the RF signal                                                                                                |
| A,B,C,D               | modulation dependent linearization parameters                                                                                               |
| Polarization $\Phi$   | $\Phi$ rotation around probe axis                                                                                                           |
| Polarization $\theta$ | $\theta$ rotation around an axis that is in the plane normal to probe axis (at measurement center), i<br>$\theta=0$ is normal to probe axis |

Connector Angle information used in DASY system to align probe sensor X to the robot coordinate system

### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Procedure to measure the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300MHz to 3GHz)", February 2005
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Methods Applied and Interpretation of Parameters:

- NORM<sub>x,y,z</sub>:** Assessed for E-field polarization  $\theta=0$  ( $f \leq 900\text{MHz}$  in TEM-cell;  $f > 1800\text{MHz}$ : waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not effect the  $E^2$ -field uncertainty inside TSL (see below ConvF).
- NORM(f)<sub>x,y,z</sub> = NORM<sub>x,y,z</sub> \* frequency\_response** (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCPx,y,z:** DCP are numerical linearization parameters assessed based on the data of power sweep (no uncertainty required). DCP does not depend on frequency nor media.
- PAR:** PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics.
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; VR<sub>x,y,z</sub>:** A,B,C are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters:** Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800\text{MHz}$ ) and inside waveguide using analytical field distributions based on power measurements for  $f > 800\text{MHz}$ . The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty valued are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50\text{MHz}$  to  $\pm 100\text{MHz}$ .
- Spherical isotropy (3D deviation from isotropy):** in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset:** The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle:** The angle is assessed using the information gained by determining the NORM<sub>x</sub> (no uncertainty required).



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# Probe EX3DV4

## SN: 3677

Calibrated: January 23, 2017

Calibrated for DASY/EASY Systems

(Note: non-compatible with DASY2 system!)