



## **SAR EVALUATION REPORT**

**FCC 47 CFR § 2.1093  
IEEE Std 1528-2013**

*For*  
**SMARTPHONE**

**FCC ID: BCG-E3176A  
Model Name: A1902**

**Report Number: 11792476-S1V5  
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**Revision History**

| Rev. | Date      | Revisions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Revised By        |
|------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
| V1   | 8/22/2017 | Initial Issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | --                |
| V2   | 8/23/2017 | Report revised based in Reviewer's comments:<br>1. Sec. 2: Updated<br>2. Sec 6.1: Updated device dimension.<br>3. Sec.6.3.1, 6.3.2, 6.3.3 and 6.3.4: Updated.<br>4. Sec 8.1: Updated.<br>5. Sec. 9.1: Updated.<br>6. Sec. 9.2: Updated.<br>7. Sec. 9.4: Updated. LTE Band 2, 7,30,41, and 66<br>8. Sec. 9.5: Updated.<br>9. Sec.9.8 : Corrected Typo<br>10. Sec. 10.18 : Updated<br>11. Sec. 10.19: Updated.<br>12. Sec. 10.25: Updated.<br>13. Sec. 12.1, 12.2, 12.3, 12.4 and 12.5: Updated.<br>14. Updated Appendixes A and C | Art Thammanavarat |
| V3   | 8/30/2017 | Report revised based in Reviewer's comments:<br>1. Sec. 6.1: Revised note.<br>2. Sec. 6.3: Updated max. Power table.<br>3. Sec. 9: Added max. Power limit and note.<br>4. Sec. 10: Revised note.                                                                                                                                                                                                                                                                                                                                 | Art Thammanavarat |
| V4   | 9/1/2017  | Report revised based on Reviewer's comments:<br>1. Sec. 6.3: Updated note.<br>2. Sec. 7: Added Antenna diagram.<br>3. Sec. 9: Updated note.<br>4. Sec. 9.5: Updated note and table.<br>5. Sec. 10: Added descriptive notes.                                                                                                                                                                                                                                                                                                      | Kenneth Mak       |
| V5   | 9/5/2017  | Report revised based on Reviewer's comments:<br>1. Sec. 2, 6.3, & 9: Updated notes.                                                                                                                                                                                                                                                                                                                                                                                                                                              | Kenneth Mak       |

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## 1. Attestation of Test Results

|                                            |                                                                                   |      |      |      |
|--------------------------------------------|-----------------------------------------------------------------------------------|------|------|------|
| Applicant Name                             | APPLE, INC.                                                                       |      |      |      |
| FCC ID                                     | BCG-E3176A                                                                        |      |      |      |
| Model Name                                 | A1902                                                                             |      |      |      |
| Applicable Standards                       | FCC 47 CFR § 2.1093<br>Published RF exposure KDB procedures<br>IEEE Std 1528-2013 |      |      |      |
| Exposure Category                          | SAR Limits (W/Kg)                                                                 |      |      |      |
|                                            | Peak spatial-average(1g of tissue)                                                |      |      |      |
| General population / Uncontrolled exposure | 1.6                                                                               |      |      |      |
| RF Exposure Conditions                     | Equipment Class - Highest Reported SAR (W/kg)                                     |      |      |      |
|                                            | PCE                                                                               | DTS  | NII  | DSS  |
| Head                                       | 1.09                                                                              | 1.12 | 0.62 | 0.45 |
| Body-worn                                  | 1.09                                                                              | 1.13 | 1.19 | 0.49 |
| Hotspot                                    | 1.09                                                                              | 1.13 | 1.19 | N/A  |
| Simultaneous TX                            | Head                                                                              | 1.43 | 1.41 | 1.43 |
|                                            | Body-worn                                                                         | 1.57 | 1.55 | 1.57 |
|                                            | Hotspot                                                                           | 1.57 | 1.55 | N/A  |
| Date Tested                                | 7/24/2017 to 8/16/2017                                                            |      |      |      |
| Test Results                               | Pass                                                                              |      |      |      |

UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

**Note:** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government (NIST Handbook 150, Annex A). This report is written to support regulatory compliance of the applicable standards stated above.

|                                                                                     |                                                                                      |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Approved & Released By:                                                             | Prepared By:                                                                         |
|  |  |
| Devin Chang<br>Senior Engineer<br>UL Verification Services Inc.                     | Chakrit Thammanavarat<br>Engineer<br>UL Verification Services Inc.                   |

## 2. Test Specification, Methods and Procedures

The tests documented in this report were performed in accordance with FCC 47 CFR § 2.1093, IEEE STD 1528-2013, the following FCC Published RF exposure [KDB](#) procedures & manufacturer KDB inquiries:

- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D01 General RF Exposure Guidance v06
- 447498 D03 Supplement C Cross-Reference v01
- 648474 D04 Handset SAR 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

In addition to the above, the following information was used:

- [TCB workshop](#) October, 2014; Page 36, RF Exposure Procedures Update (Overlapping LTE Bands)
- [TCB workshop](#) October, 2014; Page 37, LTE Considerations (LTE Band 41 Test Channels)

### Additional Guidance: Operational Description and Manufacturer KDB inquiry

- Carrier Aggregation – KDB guidance to identify test cases with uplink carrier aggregation enabled in conjunction with FCC PAG Guidance for the test cases mentioned in Sec. 10.
- Detect Mode – KDB guidance related to SAR testing for proprietary detection mode used to determine proximity to head or body and set power accordingly for Wi-Fi and Cellular Transmitters.
- Cellular State Dependent Wi-Fi Power control – KDB guidance related to power control mechanism for Wi-Fi and Bluetooth transmitters based on the operational state of the Wi-Fi and Cellular Transmitters. The Wi-Fi and Bluetooth power configuration are listed as follows:
  - For Wi-Fi
    - $P_{Cell\_ON}$ : This will be used when both Cellular and Wi-Fi radios are ON.
    - $P_{Cell\_OFF}$ : This will be used when only Wi-Fi radio is ON
    - $P_{Cell\_MAX}$ : This will be used when the device is placed on the proprietary wireless charger and is therefore considered to be a mobile device. Refer to separate MPE report.
  - For Bluetooth
    - Bluetooth  $P_{high}$  is used when Wi-Fi antenna is active and Cellular antenna is inactive.
    - Bluetooth  $P_{low}$  is used with Wi-Fi and Cellular antenna is active or Wi-Fi antenna inactive and Cellular antenna is active.
    - Bluetooth  $P_{standalone}$  is used with Wi-Fi and Cellular antennas are inactive.
    - Bluetooth  $P_{max}$  is used when the device is placed on a proprietary wireless charger and is therefore considered to be a mobile device. Refer to separate MPE report.

The above power configurations for Wi-Fi and Bluetooth are triggered by all of the Cellular Bands with respect to the different Antennas and Exposure Conditions – Head, Body, and Hotspot has been verified and validated by the Manufacturer. Also, all of the UL CA conditions operate correctly with the intended maximum output power levels in simulated normal operating conditions using the Base Station Simulator and has been verified and validated by the Manufacturer.

### 3. Facilities and Accreditation

The test sites and measurement facilities used to collect data are located at

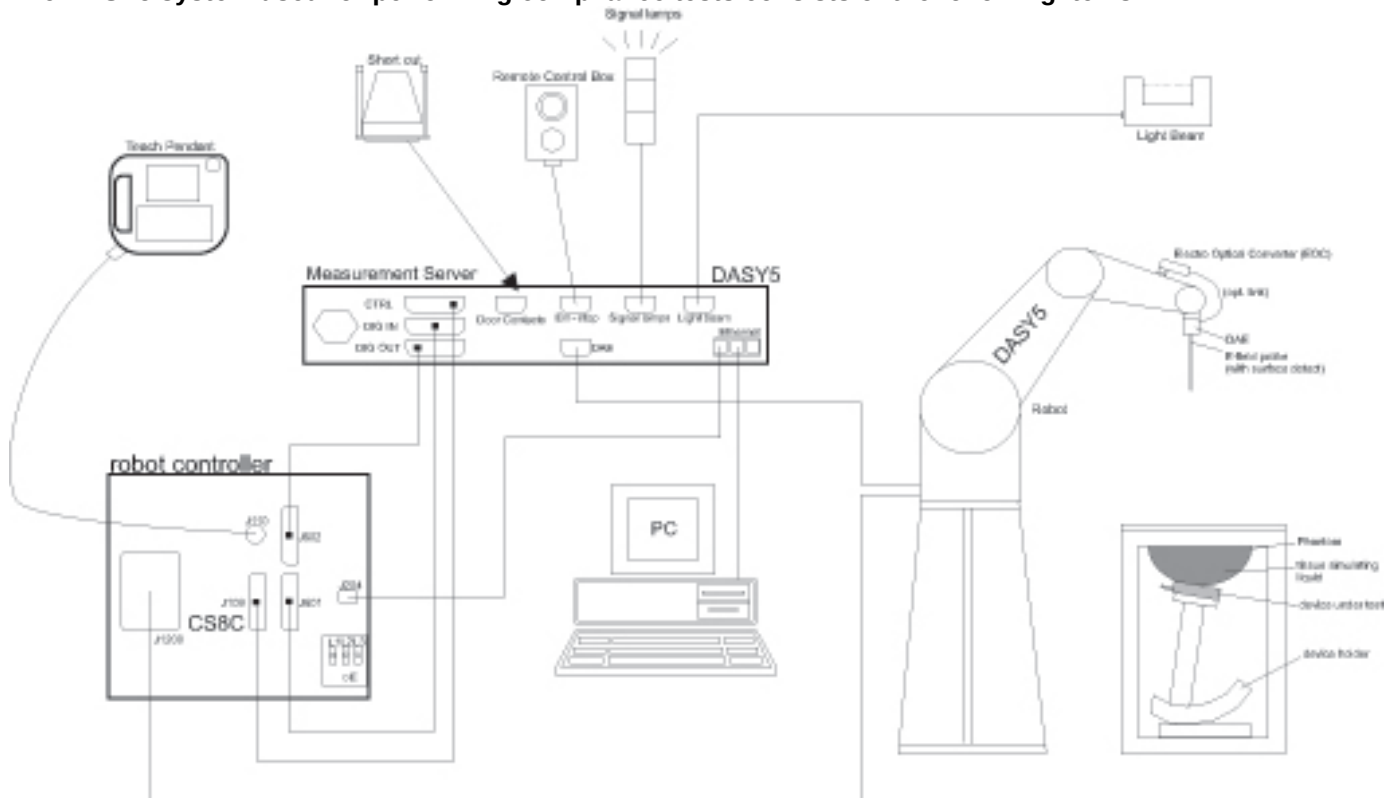
| 47173 Benicia Street | 47266 Benicia Street |
|----------------------|----------------------|
| SAR Lab A            | SAR Lab 1            |
| SAR Lab B            | SAR Lab 2            |
| SAR Lab C            | SAR Lab 4            |
| SAR Lab D            |                      |
| SAR Lab E            |                      |
| SAR Lab F            |                      |
| SAR Lab G            |                      |
| SAR Lab H            |                      |

UL Verification Services Inc. is accredited by NVLAP, Laboratory Code 200065-0.

## 4. SAR Measurement System & Test Equipment

### 4.1. SAR Measurement System

The DASY5 system used 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 DASY5 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.

## 4.2. SAR Scan Procedures

### Step 1: 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. The minimum distance of probe sensors to surface is 2.1 mm. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

### Step 2: 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 locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal 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 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: $\Delta x_{\text{Area}}$ , $\Delta y_{\text{Area}}$              | $\leq 2$ 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. |                                                        |

**Step 3: Zoom Scan**

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g 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 g and 10 g and displays these values next to the job's label.

Zoom Scan Parameters extracted from KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

|                                                                                                                                                                                                                                                                                                             |                                           |                                                                                             | $\leq 3$ GHz                                         | $> 3$ GHz                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------|
| Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$                                                                                                                                                                                                                      |                                           |                                                                                             | $\leq 2$ GHz: $\leq 8$ mm<br>2 – 3 GHz: $\leq 5$ mm* | 3 – 4 GHz: $\leq 5$ mm*<br>4 – 6 GHz: $\leq 4$ mm*                            |
| Maximum zoom scan spatial resolution, normal to phantom surface                                                                                                                                                                                                                                             | uniform grid: $\Delta z_{\text{Zoom}}(n)$ |                                                                                             | $\leq 5$ mm                                          | 3 – 4 GHz: $\leq 4$ mm<br>4 – 5 GHz: $\leq 3$ mm<br>5 – 6 GHz: $\leq 2$ mm    |
|                                                                                                                                                                                                                                                                                                             | graded grid                               | $\Delta z_{\text{Zoom}}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface | $\leq 4$ mm                                          | 3 – 4 GHz: $\leq 3$ mm<br>4 – 5 GHz: $\leq 2.5$ mm<br>5 – 6 GHz: $\leq 2$ mm  |
|                                                                                                                                                                                                                                                                                                             |                                           | $\Delta z_{\text{Zoom}}(n>1)$ : between subsequent points                                   | $\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$         |                                                                               |
| Minimum zoom scan volume                                                                                                                                                                                                                                                                                    | x, y, z                                   |                                                                                             | $\geq 30$ mm                                         | 3 – 4 GHz: $\geq 28$ mm<br>4 – 5 GHz: $\geq 25$ mm<br>5 – 6 GHz: $\geq 22$ mm |
| 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 $\leq 1.4$ W/kg, $\leq 8$ mm, $\leq 7$ mm and $\leq 5$ mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz. |                                           |                                                                                             |                                                      |                                                                               |

**Step 4: Power drift measurement**

The Power Drift Measurement measures the field at the same location as the most recent power reference measurement within the same procedure, and with the same settings. The Power Drift Measurement gives the field difference in dB from the reading conducted within the last Power Reference Measurement. This allows a user to monitor the power drift of the device under test within a batch process. The measurement procedure is the same as Step 1.

### 4.3. Test Equipment

The measuring equipment used to perform the tests documented in this report has been calibrated in accordance with the manufacturers' recommendations, and is traceable to recognized national standards.

#### Dielectric Property Measurements

| Name of Equipment    | Manufacturer                      | Type/Model    | Serial No.    | Cal. Due Date |
|----------------------|-----------------------------------|---------------|---------------|---------------|
| Network Analyzer     | Agilent                           | 8753ES        | MY40001647    | 8/23/2017     |
| Dielectric Probe kit | SPEAG                             | DAK-3.5       | 1087          | 11/8/2017     |
| Shorting block       | SPEAG                             | DAK-3.5 Short | SM DAK 200 BA | 11/8/2017     |
| Thermometer          | Traceable Calibration Control Co. | 4242          | 170064398     | 1/30/2018     |

#### System Check

| Name of Equipment            | Manufacturer | Type/Model             | Serial No.  | Cal. Due Date |
|------------------------------|--------------|------------------------|-------------|---------------|
| Synthesized Signal Generator | Agilent      | N5181A                 | MY50140630  | 5/16/2018     |
| Power Meter                  | Keysight     | N1912A                 | MY50001018  | 10/11/2017    |
| Power Sensor                 | Agilent      | N1921A                 | MY53260001  | 10/17/2017    |
| Power Sensor                 | Agilent      | N1921A                 | MY53070007  | 3/1/2018      |
| Amplifier                    | MITEQ        | AMF-4D-00400600-50-30P | 1795092     | N/A           |
| Directional coupler          | Werlatone    | C8060-102              | 2141        | N/A           |
| DC Power Supply              | HP           | 1611                   | 215-02292   | N/A           |
| Synthesized Signal Generator | HP           | 8665B                  | 3546A00784  | 9/2/2017      |
| Power Meter                  | HP           | 437B                   | 3125U11347  | 8/30/2017     |
| Power Meter                  | HP           | 437B                   | 3125U09516  | 9/27/2017     |
| Power Sensor                 | HP           | 8481A                  | 1926A16917  | 10/7/2017     |
| Power Sensor                 | HP           | 8481A                  | 2702A76223  | 9/14/2017     |
| Amplifier                    | MITEQ        | AMF-4D-00400600-50-30P | 1808938     | N/A           |
| Directional coupler          | Werlatone    | C8060-102              | 2710        | N/A           |
| DC Power Supply              | HP           | 6296A                  | 2841A-05955 | N/A           |

**Lab Equipment**

| Name of Equipment                        | Manufacturer | Type/Model | Serial No. | Cal. Due Date |
|------------------------------------------|--------------|------------|------------|---------------|
| E-Field Probe (SAR Lab A)                | SPEAG        | EX3DV4     | 3929       | 3/15/2018     |
| E-Field Probe (SAR Lab B)                | SPEAG        | EX3DV4     | 7335       | 3/15/2018     |
| E-Field Probe (SAR Lab C)                | SPEAG        | EX3DV4     | 3885       | 9/20/2017     |
| E-Field Probe (SAR Lab D)                | SPEAG        | EX3DV4     | 7356       | 4/21/2018     |
| E-Field Probe (SAR Lab E)                | SPEAG        | EX3DV4     | 3772       | 2/16/2018     |
| E-Field Probe (SAR Lab F)                | SPEAG        | EX3DV4     | 3773       | 4/21/2018     |
| E-Field Probe (SAR Lab G)                | SPEAG        | EX3DV4     | 3749       | 1/23/2018     |
| E-Field Probe (SAR Lab H)                | SPEAG        | EX3DV4     | 3989       | 2/16/2018     |
| Data Acquisition Electronics (SAR Lab A) | SPEAG        | DAE4       | 1434       | 4/19/2018     |
| Data Acquisition Electronics (SAR Lab B) | SPEAG        | DAE4       | 1257       | 9/15/2017     |
| Data Acquisition Electronics (SAR Lab C) | SPEAG        | DAE4       | 1377       | 9/14/2017     |
| Data Acquisition Electronics (SAR Lab D) | SPEAG        | DAE4       | 1359       | 2/10/2018     |
| Data Acquisition Electronics (SAR Lab E) | SPEAG        | DAE4       | 1357       | 2/13/2018     |
| Data Acquisition Electronics (SAR Lab F) | SPEAG        | DAE4       | 1259       | 1/20/2018     |
| Data Acquisition Electronics (SAR Lab G) | SPEAG        | DAE4       | 1352       | 11/11/2017    |
| Data Acquisition Electronics (SAR Lab H) | SPEAG        | DAE4       | 1472       | 3/10/2018     |
| System Validation Dipole                 | SPEAG        | D750V3     | 1019       | 3/13/2018     |
| System Validation Dipole                 | SPEAG        | D835V2     | 4d002      | 11/8/2017     |
| System Validation Dipole                 | SPEAG        | D835V2     | 4d117      | 5/22/2018     |
| System Validation Dipole                 | SPEAG        | D1750V2    | 1050       | 4/18/2018     |
| System Validation Dipole                 | SPEAG        | D1750V2    | 1077       | 9/14/2017     |
| System Validation Dipole                 | SPEAG        | D1900V2    | 5d140      | 4/19/2018     |
| System Validation Dipole                 | SPEAG        | D1900V2    | 5d043      | 11/9/2017     |
| System Validation Dipole                 | SPEAG        | D2300V2    | 1058       | 8/18/2017     |
| System Validation Dipole                 | SPEAG        | D2450V2    | 706        | 5/9/2018      |
| System Validation Dipole                 | SPEAG        | D2450V2    | 748        | 2/8/2018      |
| System Validation Dipole                 | SPEAG        | D2600V2    | 1006       | 9/13/2017     |
| System Validation Dipole                 | SPEAG        | D5GHzV2    | 1003       | 2/13/2018     |
| System Validation Dipole                 | SPEAG        | D5GHzV2    | 1138       | 9/22/2017     |
| System Validation Dipole                 | SPEAG        | D5GHzV2    | 1168       | 11/14/2017    |

**Other**

| Name of Equipment      | Manufacturer | Type/Model | T Number | Serial No. | Cal. Due Date |
|------------------------|--------------|------------|----------|------------|---------------|
| Power Meter            | Agilent      | N1911A     | T1244    | MY55196008 | 6/15/2018     |
| Power Sensor           | Agilent      | N1921A     | T309     | MY52270022 | 12/17/2017    |
| Power Sensor           | Agilent      | N1921A     | T734     | MY52200012 | 10/17/2017    |
| Base Station Simulator | R & S        | CMU200     | T261     | 106301     | 11/28/2017    |
| Base Station Simulator | R & S        | CMW500     | T957     | 134852     | 6/6/2018      |
| Base Station Simulator | R & S        | CMW500     | T948     | 135393     | 5/15/2018     |
| Base Station Simulator | R & S        | CMW500     | T232     | 104245     | 2/3/2018      |
| Base Station Simulator | R & S        | CMW500     | T1526    | 147543     | 5/2/2018      |
| Base Station Simulator | R & S        | CMW500     | N/A      | 145793     | 6/5/2018      |
| Base Station Simulator | R & S        | CMW500     | N/A      | 112269     | 6/5/2018      |
| Base Station Simulator | R & S        | CMW500     | N/A      | 157972     | 4/1/2018      |

**Notes:**

1. Equipment was not used after calibration due date.

## 5. 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 and the measured 10-g SAR within a frequency band is  $< 3.75$  W/kg. The expanded SAR measurement uncertainty must be  $\leq 30\%$ , for a confidence interval of  $k = 2$ . If these conditions are met, extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

## 6. Device Under Test (DUT) Information

### 6.1. DUT Description

Model A1902 is a smartphone with multimedia functions (music, application support, and video), Cellular GSM/GPRS/EGPRS/CDMA2000 1x Advanced/EVDO Rev.A /WCDMA/HSPA+/DC-HSDPA/HSUPA, LTE FDD/TDD & Carrier Aggregation / TDSCDMA, VoLTE radio, IEEE 802.11a/b/g/n/ac radio 2x2 MIMO, Bluetooth radio, GPS and NFC. The rechargeable battery is not user accessible.

This device has two cellular antennas (UAT 1 and LAT 1) as well as multiple Wi-Fi/Bluetooth antennas (UAT 1 for Wi-Fi-BT 2.4GHz, UAT 2 for Wi-Fi 5GHz, and LAT 3 for Wi-Fi-BT 2.4/5GHz).

The device is capable of switching between the LAT and UAT based on signal strength.

The antenna switching is implemented with a physical, “break-before-make” switch such that only one antenna can be used for cellular transmission at a time.

In Airplay mode, the device uses the same 802.11 modes, modulation, MIMO, Channel Bandwidth, power and power control mechanism, etc. as Wi-Fi does. Therefore, Airplay usage is categorized by the Wi-Fi SAR testing contained in Section 10.

There are two vendors of the Wi-Fi/Bluetooth radio modules: Variant 1 and Variant 2 and they have the same mechanical outline, same on board antenna, matching circuit, antenna structure and same specification. Complete SAR evaluation is performed on Variant 1. The worst case configurations for each operation mode and frequency band are repeated for Variant 2. It is confirmed that Variant 1 represents the worst case.

|                           |                                                                                                                                                                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device Dimension          | Overall (Length x Width): 143.3 mm x 70.8 mm<br>Overall Diagonal: 153 mm<br>Display Diagonal: 148.6 mm                                                                                                                                       |
| Back Cover                | <input checked="" type="checkbox"/> The rechargeable battery is not user accessible.                                                                                                                                                         |
| Battery Options           | <input checked="" type="checkbox"/> The rechargeable battery is not user accessible.                                                                                                                                                         |
| Accessory                 | Headset                                                                                                                                                                                                                                      |
| Wireless Router (Hotspot) | Wi-Fi Hotspot mode permits the device to share its cellular data connection with other Wi-Fi-enabled devices.<br><input checked="" type="checkbox"/> Mobile Hotspot (Wi-Fi 2.4 GHz)<br><input type="checkbox"/> Mobile Hotspot (Wi-Fi 5 GHz) |
| AirPlay                   | AirPlay mode enabled devices transfer data directly between each other<br><input checked="" type="checkbox"/> AirPlay (Wi-Fi 2.4 GHz)<br><input checked="" type="checkbox"/> AirPlay (Wi-Fi 5 GHz)                                           |

## 6.2. Wireless Technologies

| Wireless technologies | Frequency bands                                                                                                                                                              | Operating mode                                                                                                                        |                                                                                                                                                                                                                                                  | Duty Cycle used for SAR testing                                                                                                                                |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| GSM                   | 850<br>1900                                                                                                                                                                  | Voice (GMSK)<br>GPRS (GMSK)<br>EGPRS (8PSK)                                                                                           | GPRS Multi-Slot Class:<br><input type="checkbox"/> Class 8 - 1 Up, 4 Down<br><input checked="" type="checkbox"/> Class 10 - 2 Up, 4 Down<br><input type="checkbox"/> Class 12 - 4 Up, 4 Down<br><input type="checkbox"/> Class 33 - 4 Up, 5 Down | GSM Voice: 12.5%<br>(E)GPRS: 1 Slot: 12.5%<br>2 Slots: 25%                                                                                                     |
|                       | Does this device support DTM (Dual Transfer Mode)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                       |                                                                                                                                       |                                                                                                                                                                                                                                                  |                                                                                                                                                                |
| CDMA (CDMA2000)       | BC0<br>BC1<br>BC10                                                                                                                                                           | 1xRTT (Voice & Data)<br>1xEV-DO Rel. 0<br>1xEV-DO Rev. A<br>1xAdvanced                                                                |                                                                                                                                                                                                                                                  | 100%                                                                                                                                                           |
| W-CDMA (UMTS)         | Band II<br>Band IV<br>Band V                                                                                                                                                 | UMTS Rel. 99 (Voice & Data)<br>HSDPA (Rel. 5)<br>HSUPA (Rel. 6)<br>DC-HSDPA (Rel. 8)<br>HSPA+ (Rel. 7)                                |                                                                                                                                                                                                                                                  | 100%                                                                                                                                                           |
| LTE                   | FDD Band 2<br>FDD Band 4<br>FDD Band 5<br>FDD Band 7<br>FDD Band 12<br>FDD Band 13<br>FDD Band 17<br>FDD Band 25<br>FDD Band 26<br>FDD Band 30<br>TDD Band 41<br>FDD Band 66 | QPSK<br>16QAM<br>64QAM<br><input checked="" type="checkbox"/> Rel. 11 Carrier Aggregation (2 Uplinks and 4 Downlinks), UE Category 10 |                                                                                                                                                                                                                                                  | 100% (FDD)<br>63.3% (TDD) This device supports uplink-downlink configuration 0-6. The configuration with the highest duty cycle was used (config. 0 at 63.3%). |
|                       | Does this device support SV-LTE (1xRTT-LTE)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                             |                                                                                                                                       |                                                                                                                                                                                                                                                  |                                                                                                                                                                |
| Wi-Fi                 | 2.4 GHz                                                                                                                                                                      | 802.11b<br>802.11g<br>802.11n (HT20)                                                                                                  |                                                                                                                                                                                                                                                  | 100%                                                                                                                                                           |
|                       | 5 GHz                                                                                                                                                                        | 802.11a<br>802.11n (HT20)<br>802.11n (HT40)<br>802.11ac (VHT20)<br>802.11ac (VHT40)<br>802.11ac (VHT80)                               |                                                                                                                                                                                                                                                  | 100%                                                                                                                                                           |
|                       | Does this device support bands 5.60 ~ 5.65 GHz? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                          |                                                                                                                                       |                                                                                                                                                                                                                                                  |                                                                                                                                                                |
|                       | Does this device support Band gap channel(s)? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                            |                                                                                                                                       |                                                                                                                                                                                                                                                  |                                                                                                                                                                |
| Bluetooth             | 2.4 GHz                                                                                                                                                                      | Version 5.0 LE                                                                                                                        |                                                                                                                                                                                                                                                  | 77.5% (DH5) <sup>1</sup>                                                                                                                                       |

### Notes:

- The Bluetooth protocol is considered source-based averaging. Bluetooth EDR, GFSK (DH5) was verified to have the highest duty cycle of 77.5% and was considered and used for SAR Testing.

### 6.3. Maximum Output Power from Tune-up Procedure

The device utilizes three power modes; Mode A, Mode B and Mode C. Power selection is determined by the device's positioning and use case as described in Sec. 10. Mode A power is used when the device is used against the user's head, or away from the body. Mode B is used when the device is used in a body-worn configuration by the user. Mode C is used when the device is placed on a proprietary Apple wireless charger, as described in Sec. 6.3.5. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

This device has two cellular antennas (UAT 1 and LAT 1) as well as multiple Wi-Fi/Bluetooth antennas (UAT 1 for Wi-Fi-BT 2.4GHz, UAT 2 for Wi-Fi 5GHz, and LAT 3 for Wi-Fi-BT 2.4/5GHz). The selection between antennas UAT and LAT in application is based on RSSI based antenna selection. The full details of power selections are described in the operational description.

The maximum calibration level already includes component tolerance of  $\pm 0.75\text{dB}$  for modulations other than 8PSK, where a  $\pm 1\text{dB}$  tolerance is included. KDB 447498 sec.4.1.(d) 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.

| RF Air interface | Mode                | Target Avg. RF Output Power (dBm) |            |       |       |            |       |        |            |       |       |            |       |
|------------------|---------------------|-----------------------------------|------------|-------|-------|------------|-------|--------|------------|-------|-------|------------|-------|
|                  |                     | MODE A                            |            |       |       |            |       | MODE B |            |       |       |            |       |
|                  |                     | UAT 1                             |            |       | LAT 1 |            |       | UAT 1  |            |       | LAT 1 |            |       |
|                  |                     | MAX                               | Tolerance  | Frame | MAX   | Tolerance  | Frame | MAX    | Tolerance  | Frame | MAX   | Tolerance  | Frame |
| GSM850           | Voice/GPRS (1 slot) | 27.8                              | $\pm 0.75$ | 18.8  | 27.8  | $\pm 0.75$ | 18.8  | 30.3   | $\pm 0.75$ | 21.3  | 30.3  | $\pm 0.75$ | 21.3  |
|                  | GPRS 2 slots        | 27.8                              | $\pm 0.75$ | 21.8  | 27.8  | $\pm 0.75$ | 21.8  | 30.3   | $\pm 0.75$ | 24.3  | 30.3  | $\pm 0.75$ | 24.3  |
|                  | EGPRS 1 slot        | 22.5                              | $\pm 1.0$  | 13.5  | 22.5  | $\pm 1.0$  | 13.5  | 24.0   | $\pm 1.0$  | 15.0  | 24.0  | $\pm 1.0$  | 15.0  |
|                  | EGPRS 2 slots       | 22.5                              | $\pm 1.0$  | 16.5  | 22.5  | $\pm 1.0$  | 16.5  | 24.0   | $\pm 1.0$  | 18.0  | 24.0  | $\pm 1.0$  | 18.0  |
| GSM1900          | Voice/GPRS (1 slot) | 26.5                              | $\pm 0.75$ | 17.5  | 26.5  | $\pm 0.75$ | 17.5  | 29.8   | $\pm 0.75$ | 20.8  | 29.8  | $\pm 0.75$ | 20.8  |
|                  | GPRS 2 slots        | 26.0                              | $\pm 0.75$ | 20.0  | 26.5  | $\pm 0.75$ | 20.5  | 29.8   | $\pm 0.75$ | 23.8  | 27.3  | $\pm 0.75$ | 21.3  |
|                  | EGPRS 1 slot        | 22.5                              | $\pm 1.0$  | 13.5  | 22.5  | $\pm 1.0$  | 13.5  | 25.0   | $\pm 1.0$  | 16.0  | 25.0  | $\pm 1.0$  | 16.0  |
|                  | EGPRS 2 slots       | 22.5                              | $\pm 1.0$  | 16.5  | 22.5  | $\pm 1.0$  | 16.5  | 25.0   | $\pm 1.0$  | 19.0  | 25.0  | $\pm 1.0$  | 19.0  |

| RF Air interface                  | Mode          | Target Avg. RF Output Pow er (dBm) |   |           |       |        |           |        |   |           |       |   |           |       |  |
|-----------------------------------|---------------|------------------------------------|---|-----------|-------|--------|-----------|--------|---|-----------|-------|---|-----------|-------|--|
|                                   |               | MODE A                             |   |           |       |        |           | MODE B |   |           |       |   |           |       |  |
|                                   |               | UAT 1                              |   |           | LAT 1 |        |           | UAT 1  |   |           | LAT 1 |   |           |       |  |
|                                   |               | MAX                                |   | Tolerance | MAX   |        | Tolerance | MAX    |   | Tolerance | MAX   |   | Tolerance |       |  |
| W-CDMA<br>Band V                  | R99           | 24.3                               | ± | 0.75      | 24.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
|                                   | HSDPA         | 24.3                               | ± | 0.75      | 24.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
|                                   | HSUPA         | 24.3                               | ± | 0.75      | 24.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
|                                   | DC-HSDPA      | 24.3                               | ± | 0.75      | 24.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
|                                   | HSPA+         | 24.3                               | ± | 0.75      | 24.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
| W-CDMA<br>Band IV                 | R99           | 21.8                               | ± | 0.75      | 22.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 24.5  | ± | 0.75      |       |  |
|                                   | HSDPA         | 21.8                               | ± | 0.75      | 22.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 24.5  | ± | 0.75      |       |  |
|                                   | HSUPA         | 21.8                               | ± | 0.75      | 22.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 24.5  | ± | 0.75      |       |  |
|                                   | DC-HSDPA      | 21.8                               | ± | 0.75      | 22.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 24.5  | ± | 0.75      |       |  |
|                                   | HSPA+         | 21.8                               | ± | 0.75      | 22.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 24.5  | ± | 0.75      |       |  |
| W-CDMA<br>Band II                 | R99           | 19.5                               | ± | 0.75      | 21.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
|                                   | HSDPA         | 19.5                               | ± | 0.75      | 21.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
|                                   | HSUPA         | 19.5                               | ± | 0.75      | 21.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
|                                   | DC-HSDPA      | 19.5                               | ± | 0.75      | 21.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
|                                   | HSPA+         | 19.5                               | ± | 0.75      | 21.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
| CDMA BC0                          | 1xRTT         | 23.3                               | ± | 0.75      | 23.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
|                                   | 1xAdvanced    | 23.3                               | ± | 0.75      | 23.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
|                                   | 1xEVDO Rel. 0 | 23.3                               | ± | 0.75      | 23.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
|                                   | 1xEVDO Rev. A | 23.3                               | ± | 0.75      | 23.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
| CDMA BC1                          | 1xRTT         | 19.5                               | ± | 0.75      | 21.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
|                                   | 1xAdvanced    | 19.5                               | ± | 0.75      | 21.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
|                                   | 1xEVDO Rel. 0 | 19.5                               | ± | 0.75      | 21.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
|                                   | 1xEVDO Rev. A | 19.5                               | ± | 0.75      | 21.3  | ±      | 0.75      | 25.3   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
| CDMA BC10                         | 1xRTT         | 23.3                               | ± | 0.75      | 23.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
|                                   | 1xAdvanced    | 23.3                               | ± | 0.75      | 23.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
|                                   | 1xEVDO Rel. 0 | 23.3                               | ± | 0.75      | 23.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
|                                   | 1xEVDO Rev. A | 23.3                               | ± | 0.75      | 23.3  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
| LTE Band 2                        | QPSK          | 19.5                               | ± | 0.75      | 20.8  | ±      | 0.75      | 25.3   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
| LTE Band 4                        | QPSK          | 21.8                               | ± | 0.75      | 22.2  | ±      | 0.75      | 25.3   | ± | 0.75      | 24.5  | ± | 0.75      |       |  |
| LTE Band 5                        | QPSK          | 24.0                               | ± | 0.75      | 24.0  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
| LTE Band 7                        | QPSK          | 20.3                               | ± | 0.75      | 20.8  | ±      | 0.75      | 25.3   | ± | 0.75      | 22.0  | ± | 0.75      |       |  |
| LTE Band 12                       | QPSK          | 24.0                               | ± | 0.75      | 24.0  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
| LTE Band 13                       | QPSK          | 24.0                               | ± | 0.75      | 24.0  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
| LTE Band 17                       | QPSK          | 24.0                               | ± | 0.75      | 24.0  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
| LTE Band 25                       | QPSK          | 19.5                               | ± | 0.75      | 20.8  | ±      | 0.75      | 25.3   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
| LTE Band 26                       | QPSK          | 24.0                               | ± | 0.75      | 24.0  | ±      | 0.75      | 24.8   | ± | 0.75      | 24.8  | ± | 0.75      |       |  |
| LTE Band 30                       | QPSK          | 20.0                               | ± | 0.75      | 20.0  | ±      | 0.75      | 23.8   | ± | 0.75      | 22.0  | ± | 0.75      |       |  |
| LTE Band 41                       | QPSK          | 21.3                               | ± | 0.75      | 21.4  | ±      | 0.75      | 25.3   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
| LTE Band 66                       | QPSK          | 21.8                               | ± | 0.75      | 22.2  | ±      | 0.75      | 25.3   | ± | 0.75      | 24.5  | ± | 0.75      |       |  |
| LTE-uplink 2CA Band 7             | QPSK          | 19.8                               | ± | 0.75      | 19.8  | ±      | 0.75      | 23.8   | ± | 0.75      | 22.0  | ± | 0.75      |       |  |
| LTE-uplink 2CA Band 41            | QPSK          | 19.3                               | ± | 0.75      | 19.3  | ±      | 0.75      | 23.8   | ± | 0.75      | 23.3  | ± | 0.75      |       |  |
| RF Air interface                  | Mode          | Max. Avg. RF Output Pow er (dBm)   |   |           |       |        |           |        |   |           |       |   |           |       |  |
|                                   |               | MODE A                             |   |           |       | MODE B |           |        |   |           |       |   |           |       |  |
|                                   |               | UAT 1                              |   | LAT 3     |       | UAT 1  |           |        |   |           |       |   |           | LAT 3 |  |
|                                   |               |                                    |   |           |       |        |           |        |   |           |       |   |           |       |  |
| Bluetooth P <sub>low</sub>        | GFSK          | 10.0                               |   | 10.0      |       | 10.0   |           | 10.0   |   |           |       |   |           |       |  |
| Bluetooth P <sub>high</sub>       | GFSK          | 12.0                               |   | 16.5      |       | 13.5   |           | 13.5   |   |           |       |   |           |       |  |
| Bluetooth P <sub>standalone</sub> | GFSK          | 14.5                               |   | 19.5      |       | 16.5   |           | 16.5   |   |           |       |   |           |       |  |

**Notes:**

1. LTE QPSK configuration has the highest maximum average output power per 3GPP standard.
2. LTE-uplink 2CA are the total combined power of the UL CA.
3. Bluetooth P<sub>high</sub> is used when Wi-Fi antenna is active and Cellular antenna is inactive.
4. Bluetooth P<sub>low</sub> is used with Wi-Fi and Cellular antennas are active or with Wi-Fi inactive and Cellular antenna is active.
5. Bluetooth P<sub>standalone</sub> is used with Wi-Fi and Cellular antennas are inactive.

**6.3.1. WLAN SISO (P<sub>Cell\_ON</sub>)**

WLAN power will vary based on the state of the cellular transmitter for SISO and MIMO modes.

P<sub>Cell\_ON</sub>: This will be used when both Cellular and Wi-Fi radios are ON from Manufacturer KDB inquiry – Cellular State Dependent Wi-Fi Power control.

| Band<br>(GHz) | Mode    | No. of<br>Transmitters | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|---------|------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|               |         |                        |      |                | MODE A                          |       | MODE B |       |                      |
|               |         |                        |      |                | UAT 1                           | LAT 3 | UAT 1  | LAT 3 |                      |
| 2.4<br>DSSS   | 802.11b | 1 Tx                   | 1    | 2412           | 13.0                            | 20.5  | 15.5   | 15.5  | Yes                  |
|               |         |                        | 2    | 2417           | 13.0                            | 22.0  | 15.5   | 15.5  |                      |
|               |         |                        | 6    | 2437           | 13.0                            | 22.0  | 15.5   | 15.5  |                      |
|               |         |                        | 11   | 2462           | 13.0                            | 22.0  | 15.5   | 15.5  |                      |
|               |         |                        | 12   | 2467           | 13.0                            | 20.5  | 15.5   | 15.5  |                      |
|               |         |                        | 13   | 2472           | 13.0                            | 19.0  | 15.5   | 15.5  |                      |
| Band<br>(GHz) | Mode    | No. of<br>Transmitters | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|               |         |                        |      |                | MODE A                          |       | MODE B |       |                      |
|               |         |                        |      |                | UAT 1                           | LAT 3 | UAT 1  | LAT 3 |                      |
| 2.4<br>OFDM   | 802.11g | 1 Tx                   | 1    | 2412           | 13.0                            | 17.5  | 15.5   | 15.5  | No                   |
|               |         |                        | 2    | 2417           | 13.0                            | 19.5  | 15.5   | 15.5  |                      |
|               |         |                        | 3    | 2422           | 13.0                            | 21.5  | 15.5   | 15.5  |                      |
|               |         |                        | 6    | 2437           | 13.0                            | 21.5  | 15.5   | 15.5  |                      |
|               |         |                        | 9    | 2452           | 13.0                            | 21.5  | 15.5   | 15.5  |                      |
|               |         |                        | 10   | 2457           | 13.0                            | 19.5  | 15.5   | 15.5  |                      |
|               |         |                        | 11   | 2462           | 13.0                            | 17.5  | 15.5   | 15.5  |                      |
|               |         |                        | 12   | 2467           | 13.0                            | 15.5  | 15.5   | 15.5  |                      |
|               | 13      | 2472                   | 8.0  | 8.0            | 8.0                             | 8.0   |        |       |                      |
|               | 802.11n | 1 Tx<br>HT20           | 1    | 2412           | 13.0                            | 17.5  | 15.5   | 15.5  | No                   |
|               |         |                        | 2    | 2417           | 13.0                            | 19.5  | 15.5   | 15.5  |                      |
|               |         |                        | 3    | 2422           | 13.0                            | 21.5  | 15.5   | 15.5  |                      |
|               |         |                        | 6    | 2437           | 13.0                            | 21.5  | 15.5   | 15.5  |                      |
|               |         |                        | 9    | 2452           | 13.0                            | 21.5  | 15.5   | 15.5  |                      |
|               |         |                        | 10   | 2457           | 13.0                            | 19.5  | 15.5   | 15.5  |                      |
|               |         |                        | 11   | 2462           | 13.0                            | 17.5  | 15.5   | 15.5  |                      |
|               |         |                        | 12   | 2467           | 13.0                            | 15.5  | 15.5   | 15.5  |                      |
|               |         |                        | 13   | 2472           | 8.0                             | 8.0   | 8.0    | 8.0   |                      |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.
2. Sec. 5.2.2. of KDB 248227 D01 states: 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  $\leq 1.2$  W/kg.

| Band<br>(GHz) | Mode     | No. of<br>Transmitters | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|----------|------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|               |          |                        |      |                | MODE A                          |       | MODE B |       |                      |
|               |          |                        |      |                | UAT 2                           | LAT 3 | UAT 2  | LAT 3 |                      |
| 5.2           | 802.11a  | 1 Tx                   | 36   | 5180           | 14.5                            | 19.0  | 10.5   | 11.3  | No                   |
|               |          |                        | 40   | 5200           | 14.5                            | 21.0  | 10.5   | 11.3  |                      |
|               |          |                        | 44   | 5220           | 14.5                            | 21.0  | 10.5   | 11.3  |                      |
|               |          |                        | 48   | 5240           | 14.5                            | 21.0  | 10.5   | 11.3  |                      |
|               | 802.11n  | 1 Tx<br>HT20           | 36   | 5180           | 14.5                            | 19.0  | 10.5   | 11.3  | No                   |
|               |          |                        | 40   | 5200           | 14.5                            | 21.0  | 10.5   | 11.3  |                      |
|               |          |                        | 44   | 5220           | 14.5                            | 21.0  | 10.5   | 11.3  |                      |
|               |          |                        | 48   | 5240           | 14.5                            | 21.0  | 10.5   | 11.3  |                      |
|               |          | 1 Tx<br>HT40           | 38   | 5190           | 14.5                            | 18.0  | 10.5   | 11.3  | No                   |
|               |          |                        | 46   | 5230           | 14.5                            | 19.5  | 10.5   | 11.3  |                      |
|               | 802.11ac | 1 Tx<br>VHT20          | 36   | 5180           | 14.5                            | 19.0  | 10.5   | 11.3  | No                   |
|               |          |                        | 40   | 5200           | 14.5                            | 21.0  | 10.5   | 11.3  |                      |
|               |          |                        | 44   | 5220           | 14.5                            | 21.0  | 10.5   | 11.3  |                      |
|               |          |                        | 48   | 5240           | 14.5                            | 21.0  | 10.5   | 11.3  |                      |
|               |          | 1 Tx<br>VHT40          | 38   | 5190           | 14.5                            | 18.0  | 10.5   | 11.3  | No                   |
|               |          |                        | 46   | 5230           | 14.5                            | 19.5  | 10.5   | 11.3  |                      |
|               |          | 1 Tx VHT80             | 42   | 5210           | 14.5                            | 17.5  | 10.5   | 11.3  | No                   |
| 5.3           | 802.11a  | 1 Tx                   | 52   | 5260           | 15.0                            | 21.0  | 11.0   | 11.3  | Yes                  |
|               |          |                        | 56   | 5280           | 15.0                            | 21.0  | 11.0   | 11.3  |                      |
|               |          |                        | 60   | 5300           | 15.0                            | 21.0  | 11.0   | 11.3  |                      |
|               |          |                        | 64   | 5320           | 15.0                            | 19.0  | 11.0   | 11.3  |                      |
|               | 802.11n  | 1 Tx<br>HT20           | 52   | 5260           | 15.0                            | 21.0  | 11.0   | 11.3  | No                   |
|               |          |                        | 56   | 5280           | 15.0                            | 21.0  | 11.0   | 11.3  |                      |
|               |          |                        | 60   | 5300           | 15.0                            | 21.0  | 11.0   | 11.3  |                      |
|               |          |                        | 64   | 5320           | 15.0                            | 19.0  | 11.0   | 11.3  |                      |
|               |          | 1 Tx<br>HT40           | 54   | 5270           | 15.0                            | 19.5  | 11.0   | 11.3  | No                   |
|               |          |                        | 62   | 5310           | 15.0                            | 18.0  | 11.0   | 11.3  |                      |
|               | 802.11ac | 1 Tx<br>VHT20          | 52   | 5260           | 15.0                            | 21.0  | 11.0   | 11.3  | No                   |
|               |          |                        | 56   | 5280           | 15.0                            | 21.0  | 11.0   | 11.3  |                      |
|               |          |                        | 60   | 5300           | 15.0                            | 21.0  | 11.0   | 11.3  |                      |
|               |          |                        | 64   | 5320           | 15.0                            | 19.0  | 11.0   | 11.3  |                      |
|               |          | 1 Tx<br>VHT40          | 54   | 5270           | 15.0                            | 19.5  | 11.0   | 11.3  | No                   |
|               |          |                        | 62   | 5310           | 15.0                            | 18.0  | 11.0   | 11.3  |                      |
|               |          | 1 Tx VHT80             | 58   | 5290           | 15.0                            | 17.5  | 11.0   | 11.3  | Yes                  |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

| Band<br>(GHz) | Mode     | No. of<br>Transmitters | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|----------|------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|               |          |                        |      |                | MODE A                          |       | MODE B |       |                      |
|               |          |                        |      |                | UAT 2                           | LAT 3 | UAT 2  | LAT 3 |                      |
| 5.5           | 802.11a  | 1 Tx                   | 100  | 5500           | 16.0                            | 19.0  | 10.5   | 12.5  | Yes                  |
|               |          |                        | 104  | 5520           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 108  | 5540           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 112  | 5560           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 116  | 5580           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 120  | 5600           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 124  | 5620           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 128  | 5640           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 132  | 5660           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 136  | 5680           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 140  | 5700           | 16.0                            | 19.0  | 10.5   | 12.5  |                      |
|               |          |                        | 144  | 5720           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               | 802.11n  | 1 Tx<br>HT20           | 100  | 5500           | 16.0                            | 19.0  | 10.5   | 12.5  | No                   |
|               |          |                        | 104  | 5520           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 108  | 5540           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 112  | 5560           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 116  | 5580           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 120  | 5600           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 124  | 5620           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 128  | 5640           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 132  | 5660           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 136  | 5680           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 140  | 5700           | 16.0                            | 19.0  | 10.5   | 12.5  |                      |
|               |          |                        | 144  | 5720           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          | 1 Tx<br>HT40           | 102  | 5510           | 16.0                            | 18.0  | 10.5   | 12.5  | No                   |
|               |          |                        | 110  | 5550           | 16.0                            | 19.5  | 10.5   | 12.5  |                      |
|               |          |                        | 118  | 5590           | 16.0                            | 19.5  | 10.5   | 12.5  |                      |
|               |          |                        | 126  | 5630           | 16.0                            | 19.5  | 10.5   | 12.5  |                      |
|               |          |                        | 134  | 5670           | 16.0                            | 19.5  | 10.5   | 12.5  |                      |
|               |          |                        | 142  | 5710           | 16.0                            | 19.5  | 10.5   | 12.5  |                      |
|               | 802.11ac | 1 Tx<br>VHT20          | 100  | 5500           | 16.0                            | 19.0  | 10.5   | 12.5  | No                   |
|               |          |                        | 104  | 5520           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 108  | 5540           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 112  | 5560           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 116  | 5580           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 120  | 5600           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 124  | 5620           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 128  | 5640           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 132  | 5660           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 136  | 5680           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
|               |          |                        | 140  | 5700           | 16.0                            | 19.0  | 10.5   | 12.5  |                      |
|               |          |                        | 144  | 5720           | 16.0                            | 21.0  | 10.5   | 12.5  |                      |
| 1 Tx<br>VHT40 |          | 102                    | 5510 | 16.0           | 18.0                            | 10.5  | 12.5   | No    |                      |
|               |          | 110                    | 5550 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |
|               |          | 118                    | 5590 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |
|               |          | 126                    | 5630 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |
|               |          | 134                    | 5670 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |
|               |          | 142                    | 5710 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |
| 1 Tx<br>VHT80 |          | 106                    | 5530 | 16.0           | 17.5                            | 10.5  | 12.5   | Yes   |                      |
|               |          | 122                    | 5610 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |
|               |          | 138                    | 5690 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

| Band<br>(GHz) | Mode     | No. of<br>Transmitters | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|----------|------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|               |          |                        |      |                | MODE A                          |       | MODE B |       |                      |
|               |          |                        |      |                | UAT 2                           | LAT 3 | UAT 2  | LAT 3 |                      |
| 5.8           | 802.11a  | 1 Tx                   | 149  | 5745           | 16.0                            | 21.5  | 10.5   | 12.0  | Yes                  |
|               |          |                        | 153  | 5765           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                        | 157  | 5785           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                        | 161  | 5805           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                        | 165  | 5825           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               | 802.11n  | 1 Tx<br>HT20           | 149  | 5745           | 16.0                            | 21.5  | 10.5   | 12.0  | No                   |
|               |          |                        | 153  | 5765           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                        | 157  | 5785           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                        | 161  | 5805           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                        | 165  | 5825           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          | 1 Tx<br>HT40           | 151  | 5755           | 16.0                            | 19.5  | 10.5   | 12.0  | No                   |
|               |          |                        | 159  | 5795           | 16.0                            | 19.5  | 10.5   | 12.0  |                      |
|               | 802.11ac | 1 Tx<br>VHT20          | 149  | 5745           | 16.0                            | 21.5  | 10.5   | 12.0  | No                   |
|               |          |                        | 153  | 5765           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                        | 157  | 5785           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                        | 161  | 5805           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                        | 165  | 5825           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          | 1 Tx<br>VHT40          | 151  | 5755           | 16.0                            | 19.5  | 10.5   | 12.0  | No                   |
|               |          |                        | 159  | 5795           | 16.0                            | 19.5  | 10.5   | 12.0  |                      |
|               |          | 1 Tx VHT80             | 155  | 5775           | 16.0                            | 19.5  | 10.5   | 12.0  | Yes                  |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

### 6.3.2. WLAN MIMO ( $P_{Cell\_ON}$ )

WLAN power will vary based on the state of the cellular transmitter for SISO and MIMO modes.

$P_{Cell\_ON}$ : This will be used when both Cellular and Wi-Fi radios are ON from Manufacturer KDB inquiry – Cellular State Dependent Wi-Fi Power control.

| Band<br>(GHz) | Mode    | No. of Transmitters              | Ch # | Freq.<br>(MHz) | Max.Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|---------|----------------------------------|------|----------------|--------------------------------|-------|--------|-------|----------------------|
|               |         |                                  |      |                | MODE A                         |       | MODE B |       |                      |
|               |         |                                  |      |                | UAT 1                          | LAT 3 | UAT 1  | LAT 3 |                      |
| 2.4<br>OFDM   | 802.11g | 2 Tx<br>CDD                      | 1    | 2412           | 13.0                           | 16.5  | 15.5   | 15.5  | Yes                  |
|               |         |                                  | 2    | 2417           | 13.0                           | 18.5  | 15.5   | 15.5  |                      |
|               |         |                                  | 3    | 2422           | 13.0                           | 20.0  | 15.5   | 15.5  |                      |
|               |         |                                  | 4    | 2427           | 13.0                           | 21.5  | 15.5   | 15.5  |                      |
|               |         |                                  | 6    | 2437           | 13.0                           | 21.5  | 15.5   | 15.5  |                      |
|               |         |                                  | 8    | 2447           | 13.0                           | 21.5  | 15.5   | 15.5  |                      |
|               |         |                                  | 9    | 2452           | 13.0                           | 20.0  | 15.5   | 15.5  |                      |
|               |         |                                  | 10   | 2457           | 13.0                           | 18.5  | 15.5   | 15.5  |                      |
|               |         |                                  | 11   | 2462           | 13.0                           | 16.5  | 15.5   | 15.5  |                      |
|               |         |                                  | 12   | 2467           | 13.0                           | 14.5  | 14.5   | 14.5  |                      |
|               |         |                                  | 13   | 2472           | 7.0                            | 7.0   | 7.0    | 7.0   |                      |
|               | 802.11n | 2 Tx<br>HT20<br>CDD/STBC/<br>SDM | 1    | 2412           | 13.0                           | 16.5  | 15.5   | 15.5  | No                   |
|               |         |                                  | 2    | 2417           | 13.0                           | 18.5  | 15.5   | 15.5  |                      |
|               |         |                                  | 3    | 2422           | 13.0                           | 20.0  | 15.5   | 15.5  |                      |
|               |         |                                  | 4    | 2427           | 13.0                           | 21.5  | 15.5   | 15.5  |                      |
|               |         |                                  | 6    | 2437           | 13.0                           | 21.5  | 15.5   | 15.5  |                      |
|               |         |                                  | 8    | 2447           | 13.0                           | 21.5  | 15.5   | 15.5  |                      |
|               |         |                                  | 9    | 2452           | 13.0                           | 20.0  | 15.5   | 15.5  |                      |
|               |         |                                  | 10   | 2457           | 13.0                           | 18.5  | 15.5   | 15.5  |                      |
|               |         |                                  | 11   | 2462           | 13.0                           | 16.5  | 15.5   | 15.5  |                      |
|               |         |                                  | 12   | 2467           | 13.0                           | 14.5  | 14.5   | 14.5  |                      |
|               |         |                                  | 13   | 2472           | 7.0                            | 7.0   | 7.0    | 7.0   |                      |

#### Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

| Band<br>(GHz) | Mode                              | No. of<br>Transmitters            | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|-----------------------------------|-----------------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|               |                                   |                                   |      |                | MODE A                          |       | MODE B |       |                      |
|               |                                   |                                   |      |                | UAT 2                           | LAT 3 | UAT 2  | LAT 3 |                      |
| 5.2           | 802.11a                           | 2 Tx<br>CDD                       | 36   | 5180           | 14.5                            | 18.0  | 10.5   | 11.3  | No                   |
|               |                                   |                                   | 40   | 5200           | 14.5                            | 18.0  | 10.5   | 11.3  |                      |
|               |                                   |                                   | 44   | 5220           | 14.5                            | 18.0  | 10.5   | 11.3  |                      |
|               |                                   |                                   | 48   | 5240           | 14.5                            | 18.0  | 10.5   | 11.3  |                      |
|               | 802.11n                           | 2 Tx<br>HT20<br>CDD/STBC/<br>SDM  | 36   | 5180           | 14.5                            | 18.0  | 10.5   | 11.3  | No                   |
|               |                                   |                                   | 40   | 5200           | 14.5                            | 18.0  | 10.5   | 11.3  |                      |
|               |                                   |                                   | 44   | 5220           | 14.5                            | 18.0  | 10.5   | 11.3  |                      |
|               |                                   |                                   | 48   | 5240           | 14.5                            | 18.0  | 10.5   | 11.3  |                      |
|               |                                   | 2 Tx HT40<br>CDD/STBC/SDM         | 38   | 5190           | 14.5                            | 17.0  | 10.5   | 11.3  | No                   |
|               |                                   |                                   | 46   | 5230           | 14.5                            | 19.5  | 10.5   | 11.3  |                      |
|               | 802.11ac                          | 2 Tx<br>VHT20<br>CDD/STBC/<br>SDM | 36   | 5180           | 14.5                            | 18.0  | 10.5   | 11.3  | No                   |
|               |                                   |                                   | 40   | 5200           | 14.5                            | 18.0  | 10.5   | 11.3  |                      |
|               |                                   |                                   | 44   | 5220           | 14.5                            | 18.0  | 10.5   | 11.3  |                      |
|               |                                   |                                   | 48   | 5240           | 14.5                            | 18.0  | 10.5   | 11.3  |                      |
|               |                                   | 2 Tx VHT40<br>CDD/STBC/SDM        | 38   | 5190           | 14.5                            | 17.0  | 10.5   | 11.3  | No                   |
|               |                                   |                                   | 46   | 5230           | 14.5                            | 19.5  | 10.5   | 11.3  |                      |
|               |                                   | 2 Tx VHT80<br>CDD/STBC/SDM        | 42   | 5210           | 14.5                            | 16.5  | 10.5   | 11.3  | No                   |
|               |                                   |                                   | 5.3  | 802.11a        | 2 Tx<br>CDD                     | 52    | 5260   | 15.0  | 18.0                 |
| 56            | 5280                              | 15.0                              |      |                |                                 | 18.0  | 11.0   | 11.3  |                      |
| 60            | 5300                              | 15.0                              |      |                |                                 | 18.0  | 11.0   | 11.3  |                      |
| 64            | 5320                              | 15.0                              |      |                |                                 | 18.0  | 11.0   | 11.3  |                      |
| 802.11n       | 2 Tx<br>HT20<br>CDD/STBC/<br>SDM  | 52                                |      | 5260           | 15.0                            | 18.0  | 11.0   | 11.3  | No                   |
|               |                                   | 56                                |      | 5280           | 15.0                            | 18.0  | 11.0   | 11.3  |                      |
|               |                                   | 60                                |      | 5300           | 15.0                            | 18.0  | 11.0   | 11.3  |                      |
|               |                                   | 64                                |      | 5320           | 15.0                            | 18.0  | 11.0   | 11.3  |                      |
|               | 2 Tx HT40<br>CDD/STBC/SDM         | 54                                |      | 5270           | 15.0                            | 19.5  | 11.0   | 11.3  | Yes                  |
|               |                                   | 62                                |      | 5310           | 15.0                            | 17.0  | 11.0   | 11.3  |                      |
| 802.11ac      | 2 Tx<br>VHT20<br>CDD/STBC/<br>SDM | 52                                |      | 5260           | 15.0                            | 18.0  | 11.0   | 11.3  | No                   |
|               |                                   | 56                                |      | 5280           | 15.0                            | 18.0  | 11.0   | 11.3  |                      |
|               |                                   | 60                                | 5300 | 15.0           | 18.0                            | 11.0  | 11.3   |       |                      |
|               |                                   | 64                                | 5320 | 15.0           | 18.0                            | 11.0  | 11.3   |       |                      |
|               | 2 Tx VHT40<br>CDD/STBC/SDM        | 54                                | 5270 | 15.0           | 19.5                            | 11.0  | 11.3   | No    |                      |
|               |                                   | 62                                | 5310 | 15.0           | 17.0                            | 11.0  | 11.3   |       |                      |
|               | 2 Tx VHT80<br>CDD/STBC/SDM        | 58                                | 5290 | 15.0           | 16.5                            | 11.0  | 11.3   | Yes   |                      |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

| Band<br>(GHz)                     | Mode     | No. of<br>Transmitters            | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|-----------------------------------|----------|-----------------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|                                   |          |                                   |      |                | MODE A                          |       | MODE B |       |                      |
|                                   |          |                                   |      |                | UAT 2                           | LAT 3 | UAT 2  | LAT 3 |                      |
| 5.5                               | 802.11a  | 2 Tx<br>CDD                       | 100  | 5500           | 16.0                            | 18.0  | 10.5   | 12.5  | No                   |
|                                   |          |                                   | 104  | 5520           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 108  | 5540           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 112  | 5560           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 116  | 5580           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 120  | 5600           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 124  | 5620           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 128  | 5640           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 132  | 5660           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 136  | 5680           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 140  | 5700           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 144  | 5720           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   | 802.11n  | 2 Tx<br>HT20<br>CDD/STBC/<br>SDM  | 100  | 5500           | 16.0                            | 18.0  | 10.5   | 12.5  | No                   |
|                                   |          |                                   | 104  | 5520           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 108  | 5540           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 112  | 5560           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 116  | 5580           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 120  | 5600           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 124  | 5620           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 128  | 5640           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 132  | 5660           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 136  | 5680           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 140  | 5700           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 144  | 5720           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          | 2 Tx<br>HT40<br>CDD/STBC/<br>SDM  | 102  | 5510           | 16.0                            | 17.0  | 10.5   | 12.5  | No                   |
|                                   |          |                                   | 110  | 5550           | 16.0                            | 19.5  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 118  | 5590           | 16.0                            | 19.5  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 126  | 5630           | 16.0                            | 19.5  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 134  | 5670           | 16.0                            | 19.5  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 142  | 5710           | 16.0                            | 19.5  | 10.5   | 12.5  |                      |
|                                   | 802.11ac | 2 Tx<br>VHT20<br>CDD/STBC/<br>SDM | 100  | 5500           | 16.0                            | 18.0  | 10.5   | 12.5  | No                   |
|                                   |          |                                   | 104  | 5520           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 108  | 5540           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 112  | 5560           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 116  | 5580           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
|                                   |          |                                   | 120  | 5600           | 16.0                            | 18.0  | 10.5   | 12.5  |                      |
| 124                               |          |                                   | 5620 | 16.0           | 18.0                            | 10.5  | 12.5   |       |                      |
| 128                               |          |                                   | 5640 | 16.0           | 18.0                            | 10.5  | 12.5   |       |                      |
| 132                               |          |                                   | 5660 | 16.0           | 18.0                            | 10.5  | 12.5   |       |                      |
| 136                               |          |                                   | 5680 | 16.0           | 18.0                            | 10.5  | 12.5   |       |                      |
| 140                               |          |                                   | 5700 | 16.0           | 18.0                            | 10.5  | 12.5   |       |                      |
| 144                               |          |                                   | 5720 | 16.0           | 18.0                            | 10.5  | 12.5   |       |                      |
| 2 Tx<br>VHT40<br>CDD/STBC/<br>SDM |          | 102                               | 5510 | 16.0           | 17.0                            | 10.5  | 12.5   | No    |                      |
|                                   |          | 110                               | 5550 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |
|                                   |          | 118                               | 5590 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |
|                                   |          | 126                               | 5630 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |
|                                   |          | 134                               | 5670 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |
|                                   |          | 142                               | 5710 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |
| 2 Tx<br>VHT80<br>CDD/STBC/<br>SDM |          | 106                               | 5530 | 16.0           | 16.5                            | 10.5  | 12.5   | Yes   |                      |
|                                   |          | 122                               | 5610 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |
|                                   |          | 138                               | 5690 | 16.0           | 19.5                            | 10.5  | 12.5   |       |                      |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

| Band<br>(GHz) | Mode     | No. of<br>Transmitters            | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|----------|-----------------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|               |          |                                   |      |                | MODE A                          |       | MODE B |       |                      |
|               |          |                                   |      |                | UAT 2                           | LAT 3 | UAT 2  | LAT 3 |                      |
| 5.8           | 802.11a  | 2 Tx<br>CDD                       | 149  | 5745           | 16.0                            | 21.5  | 10.5   | 12.0  | Yes                  |
|               |          |                                   | 153  | 5765           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                                   | 157  | 5785           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                                   | 161  | 5805           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                                   | 165  | 5825           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               | 802.11n  | 2 Tx<br>HT20<br>CDD/STBC/<br>SDM  | 149  | 5745           | 16.0                            | 21.5  | 10.5   | 12.0  | No                   |
|               |          |                                   | 153  | 5765           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                                   | 157  | 5785           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                                   | 161  | 5805           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                                   | 165  | 5825           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          | 2 Tx HT40<br>CDD/STBC/SDM         | 151  | 5755           | 16.0                            | 19.5  | 10.5   | 12.0  | No                   |
|               |          |                                   | 159  | 5795           | 16.0                            | 19.5  | 10.5   | 12.0  |                      |
|               | 802.11ac | 2 Tx<br>VHT20<br>CDD/STBC/<br>SDM | 149  | 5745           | 16.0                            | 21.5  | 10.5   | 12.0  | No                   |
|               |          |                                   | 153  | 5765           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                                   | 157  | 5785           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                                   | 161  | 5805           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          |                                   | 165  | 5825           | 16.0                            | 21.5  | 10.5   | 12.0  |                      |
|               |          | 2 Tx VHT40<br>CDD/STBC/SDM        | 151  | 5755           | 16.0                            | 19.5  | 10.5   | 12.0  | No                   |
|               |          |                                   | 159  | 5795           | 16.0                            | 19.5  | 10.5   | 12.0  |                      |
|               |          | 2 Tx VHT80<br>CDD/STBC/SDM        | 155  | 5775           | 16.0                            | 19.5  | 10.5   | 12.0  | Yes                  |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

**6.3.3. WLAN SISO ( $P_{\text{Cell\_OFF}}$ )**

WLAN power will vary based on the state of the cellular transmitter for SISO and MIMO modes.

$P_{\text{Cell\_OFF}}$ : This will be used when only Wi-Fi radios is ON from Manufacturer KDB inquiry – Cellular State Dependent Wi-Fi Power control.

| Band<br>(GHz) | Mode    | No. of<br>Transmitters | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|---------|------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|               |         |                        |      |                | MODE A                          |       | MODE B |       |                      |
|               |         |                        |      |                | UAT 1                           | LAT 3 | UAT 1  | LAT 3 |                      |
| 2.4<br>DSSS   | 802.11b | 1 Tx                   | 1    | 2412           | 18.3                            | 20.5  | 18.8   | 20.5  | Yes                  |
|               |         |                        | 2    | 2417           | 18.3                            | 22.0  | 18.8   | 20.8  |                      |
|               |         |                        | 6    | 2437           | 18.3                            | 22.0  | 18.8   | 20.8  |                      |
|               |         |                        | 11   | 2462           | 18.3                            | 22.0  | 18.8   | 20.8  |                      |
|               |         |                        | 12   | 2467           | 18.3                            | 20.5  | 18.8   | 20.5  |                      |
|               |         |                        | 13   | 2472           | 18.3                            | 19.0  | 18.8   | 19.0  |                      |
| Band<br>(GHz) | Mode    | No. of<br>Transmitters | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|               |         |                        |      |                | MODE A                          |       | MODE B |       |                      |
|               |         |                        |      |                | UAT 1                           | LAT 3 | UAT 1  | LAT 3 |                      |
| 2.4<br>OFDM   | 802.11g | 1 Tx                   | 1    | 2412           | 17.5                            | 17.5  | 17.5   | 17.5  | No                   |
|               |         |                        | 2    | 2417           | 18.3                            | 19.5  | 18.8   | 19.5  |                      |
|               |         |                        | 3    | 2422           | 18.3                            | 21.5  | 18.8   | 20.8  |                      |
|               |         |                        | 6    | 2437           | 18.3                            | 21.5  | 18.8   | 20.8  |                      |
|               |         |                        | 9    | 2452           | 18.3                            | 21.5  | 18.8   | 20.8  |                      |
|               |         |                        | 10   | 2457           | 18.3                            | 19.5  | 18.8   | 19.5  |                      |
|               |         |                        | 11   | 2462           | 17.5                            | 17.5  | 17.5   | 17.5  |                      |
|               |         |                        | 12   | 2467           | 15.5                            | 15.5  | 15.5   | 15.5  |                      |
|               | 13      | 2472                   | 8.0  | 8.0            | 8.0                             | 8.0   |        |       |                      |
|               | 802.11n | 1 Tx<br>HT20           | 1    | 2412           | 17.5                            | 17.5  | 17.5   | 17.5  | No                   |
|               |         |                        | 2    | 2417           | 18.3                            | 19.5  | 18.8   | 19.5  |                      |
|               |         |                        | 3    | 2422           | 18.3                            | 21.5  | 18.8   | 20.8  |                      |
|               |         |                        | 6    | 2437           | 18.3                            | 21.5  | 18.8   | 20.8  |                      |
|               |         |                        | 9    | 2452           | 18.3                            | 21.5  | 18.8   | 20.8  |                      |
|               |         |                        | 10   | 2457           | 18.3                            | 19.5  | 18.8   | 19.5  |                      |
|               |         |                        | 11   | 2462           | 17.5                            | 17.5  | 17.5   | 17.5  |                      |
|               |         |                        | 12   | 2467           | 15.5                            | 15.5  | 15.5   | 15.5  |                      |
|               | 13      | 2472                   | 8.0  | 8.0            | 8.0                             | 8.0   |        |       |                      |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.
2. Sec. 5.2.2. of KDB 248227 D01 states: 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  $\leq 1.2$  W/kg.

| Band<br>(GHz) | Mode     | No. of<br>Transmitters | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|----------|------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|               |          |                        |      |                | MODE A                          |       | MODE B |       |                      |
|               |          |                        |      |                | UAT 2                           | LAT 3 | UAT 2  | LAT 3 |                      |
| 5.2           | 802.11a  | 1 Tx                   | 36   | 5180           | 19.0                            | 19.0  | 14.8   | 18.0  | No                   |
|               |          |                        | 40   | 5200           | 21.0                            | 21.0  | 14.8   | 18.0  |                      |
|               |          |                        | 44   | 5220           | 21.0                            | 21.0  | 14.8   | 18.0  |                      |
|               |          |                        | 48   | 5240           | 21.0                            | 21.0  | 14.8   | 18.0  |                      |
|               | 802.11n  | 1 Tx<br>HT20           | 36   | 5180           | 19.0                            | 19.0  | 14.8   | 18.0  | No                   |
|               |          |                        | 40   | 5200           | 21.0                            | 21.0  | 14.8   | 18.0  |                      |
|               |          |                        | 44   | 5220           | 21.0                            | 21.0  | 14.8   | 18.0  |                      |
|               |          |                        | 48   | 5240           | 21.0                            | 21.0  | 14.8   | 18.0  |                      |
|               |          | 1 Tx<br>HT40           | 38   | 5190           | 18.0                            | 18.0  | 14.8   | 18.0  | No                   |
|               |          |                        | 46   | 5230           | 19.5                            | 19.5  | 14.8   | 18.0  |                      |
|               | 802.11ac | 1 Tx<br>VHT20          | 36   | 5180           | 19.0                            | 19.0  | 14.8   | 18.0  | No                   |
|               |          |                        | 40   | 5200           | 21.0                            | 21.0  | 14.8   | 18.0  |                      |
|               |          |                        | 44   | 5220           | 21.0                            | 21.0  | 14.8   | 18.0  |                      |
|               |          |                        | 48   | 5240           | 21.0                            | 21.0  | 14.8   | 18.0  |                      |
|               |          | 1 Tx<br>VHT40          | 38   | 5190           | 18.0                            | 18.0  | 14.8   | 18.0  | No                   |
|               |          |                        | 46   | 5230           | 19.5                            | 19.5  | 14.8   | 18.0  |                      |
|               |          | 1 Tx VHT80             | 42   | 5210           | 17.5                            | 17.5  | 14.8   | 17.5  | No                   |
| 5.3           | 802.11a  | 1 Tx                   | 52   | 5260           | 21.0                            | 21.0  | 15.3   | 18.0  | Yes                  |
|               |          |                        | 56   | 5280           | 21.0                            | 21.0  | 15.3   | 18.0  |                      |
|               |          |                        | 60   | 5300           | 21.0                            | 21.0  | 15.3   | 18.0  |                      |
|               |          |                        | 64   | 5320           | 19.0                            | 19.0  | 15.3   | 18.0  |                      |
|               | 802.11n  | 1 Tx<br>HT20           | 52   | 5260           | 21.0                            | 21.0  | 15.3   | 18.0  | No                   |
|               |          |                        | 56   | 5280           | 21.0                            | 21.0  | 15.3   | 18.0  |                      |
|               |          |                        | 60   | 5300           | 21.0                            | 21.0  | 15.3   | 18.0  |                      |
|               |          |                        | 64   | 5320           | 19.0                            | 19.0  | 15.3   | 18.0  |                      |
|               |          | 1 Tx<br>HT40           | 54   | 5270           | 19.5                            | 19.5  | 15.3   | 18.0  | Yes                  |
|               |          |                        | 62   | 5310           | 18.0                            | 18.0  | 15.3   | 18.0  |                      |
|               | 802.11ac | 1 Tx<br>VHT20          | 52   | 5260           | 21.0                            | 21.0  | 15.3   | 18.0  | No                   |
|               |          |                        | 56   | 5280           | 21.0                            | 21.0  | 15.3   | 18.0  |                      |
|               |          |                        | 60   | 5300           | 21.0                            | 21.0  | 15.3   | 18.0  |                      |
|               |          |                        | 64   | 5320           | 19.0                            | 19.0  | 15.3   | 18.0  |                      |
|               |          | 1 Tx<br>VHT40          | 54   | 5270           | 19.5                            | 19.5  | 15.3   | 18.0  | No                   |
|               |          |                        | 62   | 5310           | 18.0                            | 18.0  | 15.3   | 18.0  |                      |
|               |          | 1 Tx VHT80             | 58   | 5290           | 17.5                            | 17.5  | 15.3   | 17.5  | Yes                  |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

| Band<br>(GHz) | Mode     | No. of<br>Transmitters | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|----------|------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|               |          |                        |      |                | MODE A                          |       | MODE B |       |                      |
|               |          |                        |      |                | UAT 2                           | LAT 3 | UAT 2  | LAT 3 |                      |
| 5.5           | 802.11a  | 1 Tx                   | 100  | 5500           | 19.0                            | 19.0  | 14.8   | 19.0  | Yes                  |
|               |          |                        | 104  | 5520           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 108  | 5540           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 112  | 5560           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 116  | 5580           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 120  | 5600           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 124  | 5620           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 128  | 5640           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 132  | 5660           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 136  | 5680           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 140  | 5700           | 19.0                            | 19.0  | 14.8   | 19.0  |                      |
|               |          |                        | 144  | 5720           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               | 802.11n  | 1 Tx<br>HT20           | 100  | 5500           | 19.0                            | 19.0  | 14.8   | 19.0  | No                   |
|               |          |                        | 104  | 5520           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 108  | 5540           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 112  | 5560           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 116  | 5580           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 120  | 5600           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 124  | 5620           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 128  | 5640           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 132  | 5660           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 136  | 5680           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 140  | 5700           | 19.0                            | 19.0  | 14.8   | 19.0  |                      |
|               |          |                        | 144  | 5720           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          | 1 Tx<br>HT40           | 102  | 5510           | 18.0                            | 18.0  | 14.8   | 18.0  | No                   |
|               |          |                        | 110  | 5550           | 19.5                            | 19.5  | 14.8   | 19.3  |                      |
|               |          |                        | 118  | 5590           | 19.5                            | 19.5  | 14.8   | 19.3  |                      |
|               |          |                        | 126  | 5630           | 19.5                            | 19.5  | 14.8   | 19.3  |                      |
|               |          |                        | 134  | 5670           | 19.5                            | 19.5  | 14.8   | 19.3  |                      |
|               |          |                        | 142  | 5710           | 19.5                            | 19.5  | 14.8   | 19.3  |                      |
|               | 802.11ac | 1 Tx<br>VHT20          | 100  | 5500           | 19.0                            | 19.0  | 14.8   | 19.0  | No                   |
|               |          |                        | 104  | 5520           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 108  | 5540           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 112  | 5560           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 116  | 5580           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
|               |          |                        | 120  | 5600           | 21.0                            | 21.0  | 14.8   | 19.3  |                      |
| 124           |          |                        | 5620 | 21.0           | 21.0                            | 14.8  | 19.3   |       |                      |
| 128           |          |                        | 5640 | 21.0           | 21.0                            | 14.8  | 19.3   |       |                      |
| 132           |          |                        | 5660 | 21.0           | 21.0                            | 14.8  | 19.3   |       |                      |
| 136           |          |                        | 5680 | 21.0           | 21.0                            | 14.8  | 19.3   |       |                      |
| 140           |          |                        | 5700 | 19.0           | 19.0                            | 14.8  | 19.0   |       |                      |
| 144           |          |                        | 5720 | 21.0           | 21.0                            | 14.8  | 19.3   |       |                      |
| 1 Tx<br>VHT40 |          | 102                    | 5510 | 18.0           | 18.0                            | 14.8  | 18.0   | No    |                      |
|               |          | 110                    | 5550 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |
|               |          | 118                    | 5590 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |
|               |          | 126                    | 5630 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |
|               |          | 134                    | 5670 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |
|               |          | 142                    | 5710 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |
| 1 Tx<br>VHT80 |          | 106                    | 5530 | 17.5           | 17.5                            | 14.8  | 17.5   | Yes   |                      |
|               |          | 122                    | 5610 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |
|               |          | 138                    | 5690 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

| Band<br>(GHz) | Mode     | No. of<br>Transmitters | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|----------|------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|               |          |                        |      |                | MODE A                          |       | MODE B |       |                      |
|               |          |                        |      |                | UAT 2                           | LAT 3 | UAT 2  | LAT 3 |                      |
| 5.8           | 802.11a  | 1 Tx                   | 149  | 5745           | 21.0                            | 21.5  | 14.8   | 18.8  | Yes                  |
|               |          |                        | 153  | 5765           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                        | 157  | 5785           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                        | 161  | 5805           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                        | 165  | 5825           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               | 802.11n  | 1 Tx<br>HT20           | 149  | 5745           | 21.0                            | 21.5  | 14.8   | 18.8  | No                   |
|               |          |                        | 153  | 5765           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                        | 157  | 5785           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                        | 161  | 5805           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                        | 165  | 5825           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          | 1 Tx<br>HT40           | 151  | 5755           | 19.5                            | 19.5  | 14.8   | 18.8  | No                   |
|               |          |                        | 159  | 5795           | 19.5                            | 19.5  | 14.8   | 18.8  |                      |
|               | 802.11ac | 1 Tx<br>VHT20          | 149  | 5745           | 21.0                            | 21.5  | 14.8   | 18.8  | No                   |
|               |          |                        | 153  | 5765           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                        | 157  | 5785           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                        | 161  | 5805           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                        | 165  | 5825           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          | 1 Tx<br>VHT40          | 151  | 5755           | 19.5                            | 19.5  | 14.8   | 18.8  | No                   |
|               |          |                        | 159  | 5795           | 19.5                            | 19.5  | 14.8   | 18.8  |                      |
|               |          | 1 Tx VHT80             | 155  | 5775           | 19.5                            | 19.5  | 14.8   | 18.8  | Yes                  |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

### 6.3.4. WLAN MIMO ( $P_{\text{Cell\_OFF}}$ )

WLAN power will vary based on the state of the cellular transmitter for SISO and MIMO modes.

$P_{\text{Cell\_OFF}}$ : This will be used when only Wi-Fi radios is ON from Manufacturer KDB inquiry – Cellular State Dependent Wi-Fi Power control.

| Band<br>(GHz) | Mode    | No. of Transmitters              | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|---------|----------------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|               |         |                                  |      |                | MODE A                          |       | MODE B |       |                      |
|               |         |                                  |      |                | UAT 1                           | LAT 3 | UAT 1  | LAT 3 |                      |
| 2.4<br>OFDM   | 802.11g | 2 Tx<br>CDD                      | 1    | 2412           | 16.5                            | 16.5  | 16.5   | 16.5  | Yes                  |
|               |         |                                  | 2    | 2417           | 18.3                            | 18.5  | 18.5   | 18.5  |                      |
|               |         |                                  | 3    | 2422           | 18.3                            | 20.0  | 18.8   | 20.0  |                      |
|               |         |                                  | 4    | 2427           | 18.3                            | 21.5  | 18.8   | 20.8  |                      |
|               |         |                                  | 6    | 2437           | 18.3                            | 21.5  | 18.8   | 20.8  |                      |
|               |         |                                  | 8    | 2447           | 18.3                            | 21.5  | 18.8   | 20.8  |                      |
|               |         |                                  | 9    | 2452           | 18.3                            | 20.0  | 18.8   | 20.0  |                      |
|               |         |                                  | 10   | 2457           | 18.3                            | 18.5  | 18.5   | 18.5  |                      |
|               |         |                                  | 11   | 2462           | 16.5                            | 16.5  | 16.5   | 16.5  |                      |
|               |         |                                  | 12   | 2467           | 14.5                            | 14.5  | 14.5   | 14.5  |                      |
|               | 13      | 2472                             | 7.0  | 7.0            | 7.0                             | 7.0   |        |       |                      |
|               | 802.11g | 2 Tx<br>HT20<br>CDD/STBC/<br>SDM | 1    | 2412           | 16.5                            | 16.5  | 16.5   | 16.5  | No                   |
|               |         |                                  | 2    | 2417           | 18.3                            | 18.5  | 18.5   | 18.5  |                      |
|               |         |                                  | 3    | 2422           | 18.3                            | 20.0  | 18.8   | 20.0  |                      |
|               |         |                                  | 4    | 2427           | 18.3                            | 21.5  | 18.8   | 20.8  |                      |
|               |         |                                  | 6    | 2437           | 18.3                            | 21.5  | 18.8   | 20.8  |                      |
|               |         |                                  | 8    | 2447           | 18.3                            | 21.5  | 18.8   | 20.8  |                      |
|               |         |                                  | 9    | 2452           | 18.3                            | 20.0  | 18.8   | 20.0  |                      |
|               |         |                                  | 10   | 2457           | 18.3                            | 18.5  | 18.5   | 18.5  |                      |
|               |         |                                  | 11   | 2462           | 16.5                            | 16.5  | 16.5   | 16.5  |                      |
|               |         |                                  | 12   | 2467           | 14.5                            | 14.5  | 14.5   | 14.5  |                      |
|               |         |                                  | 13   | 2472           | 7.0                             | 7.0   | 7.0    | 7.0   |                      |

#### Notes:

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

| Band<br>(GHz) | Mode                              | No. of<br>Transmitters            | Ch # | Freq<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|-----------------------------------|-----------------------------------|------|---------------|---------------------------------|-------|--------|-------|----------------------|
|               |                                   |                                   |      |               | MODE A                          |       | MODE B |       |                      |
|               |                                   |                                   |      |               | UAT 2                           | LAT 3 | UAT 2  | LAT 3 |                      |
| 5.2           | 802.11a                           | 2 Tx<br>CDD                       | 36   | 5180          | 18.0                            | 18.0  | 14.8   | 18.0  | No                   |
|               |                                   |                                   | 40   | 5200          | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|               |                                   |                                   | 44   | 5220          | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|               |                                   |                                   | 48   | 5240          | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|               | 802.11n                           | 2 Tx<br>HT20<br>CDD/STBC/<br>SDM  | 36   | 5180          | 18.0                            | 18.0  | 14.8   | 18.0  | No                   |
|               |                                   |                                   | 40   | 5200          | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|               |                                   |                                   | 44   | 5220          | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|               |                                   |                                   | 48   | 5240          | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|               |                                   | 2 Tx HT40<br>CDD/STBC/SDM         | 38   | 5190          | 17.0                            | 17.0  | 14.8   | 17.0  | No                   |
|               |                                   |                                   | 46   | 5230          | 19.5                            | 19.5  | 14.8   | 18.0  |                      |
|               | 802.11ac                          | 2 Tx<br>VHT20<br>CDD/STBC/<br>SDM | 36   | 5180          | 18.0                            | 18.0  | 14.8   | 18.0  | No                   |
|               |                                   |                                   | 40   | 5200          | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|               |                                   |                                   | 44   | 5220          | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|               |                                   |                                   | 48   | 5240          | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|               |                                   | 2 Tx VHT40<br>CDD/STBC/SDM        | 38   | 5190          | 17.0                            | 17.0  | 14.8   | 17.0  | No                   |
|               |                                   |                                   | 46   | 5230          | 19.5                            | 19.5  | 14.8   | 18.0  |                      |
|               |                                   | 2 Tx VHT80<br>CDD/STBC/SDM        | 42   | 5210          | 16.5                            | 16.5  | 14.8   | 16.5  | No                   |
|               |                                   |                                   | 5.3  | 802.11a       | 2 Tx<br>CDD                     | 52    | 5260   | 18.0  | 18.0                 |
| 56            | 5280                              | 18.0                              |      |               |                                 | 18.0  | 15.3   | 18.0  |                      |
| 60            | 5300                              | 18.0                              |      |               |                                 | 18.0  | 15.3   | 18.0  |                      |
| 64            | 5320                              | 18.0                              |      |               |                                 | 18.0  | 15.3   | 18.0  |                      |
| 802.11n       | 2 Tx<br>HT20<br>CDD/STBC/<br>SDM  | 52                                |      | 5260          | 18.0                            | 18.0  | 15.3   | 18.0  | No                   |
|               |                                   | 56                                |      | 5280          | 18.0                            | 18.0  | 15.3   | 18.0  |                      |
|               |                                   | 60                                |      | 5300          | 18.0                            | 18.0  | 15.3   | 18.0  |                      |
|               |                                   | 64                                |      | 5320          | 18.0                            | 18.0  | 15.3   | 18.0  |                      |
|               | 2 Tx HT40<br>CDD/STBC/SDM         | 54                                |      | 5270          | 19.5                            | 19.5  | 15.3   | 18.0  | Yes                  |
|               |                                   | 62                                |      | 5310          | 17.0                            | 17.0  | 15.3   | 17.0  |                      |
| 802.11ac      | 2 Tx<br>VHT20<br>CDD/STBC/<br>SDM | 52                                |      | 5260          | 18.0                            | 18.0  | 15.3   | 18.0  | No                   |
|               |                                   | 56                                |      | 5280          | 18.0                            | 18.0  | 15.3   | 18.0  |                      |
|               |                                   | 60                                | 5300 | 18.0          | 18.0                            | 15.3  | 18.0   |       |                      |
|               |                                   | 64                                | 5320 | 18.0          | 18.0                            | 15.3  | 18.0   |       |                      |
|               | 2 Tx VHT40<br>CDD/STBC/SDM        | 54                                | 5270 | 19.5          | 19.5                            | 15.3  | 18.0   | No    |                      |
|               |                                   | 62                                | 5310 | 17.0          | 17.0                            | 15.3  | 17.0   |       |                      |
|               | 2 Tx VHT80<br>CDD/STBC/SDM        | 58                                | 5290 | 16.5          | 16.5                            | 15.3  | 16.5   | No    |                      |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

| Band<br>(GHz)                     | Mode     | No. of<br>Transmitters            | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|-----------------------------------|----------|-----------------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|                                   |          |                                   |      |                | MODE A                          |       | MODE B |       |                      |
|                                   |          |                                   |      |                | UAT 2                           | LAT 3 | UAT 2  | LAT 3 |                      |
| 5.5                               | 802.11a  | 2 Tx<br>CDD                       | 100  | 5500           | 18.0                            | 18.0  | 14.8   | 18.0  | No                   |
|                                   |          |                                   | 104  | 5520           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 108  | 5540           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 112  | 5560           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 116  | 5580           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 120  | 5600           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 124  | 5620           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 128  | 5640           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 132  | 5660           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 136  | 5680           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 140  | 5700           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 144  | 5720           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   | 802.11n  | 2 Tx<br>HT20<br>CDD/STBC/<br>SDM  | 100  | 5500           | 18.0                            | 18.0  | 14.8   | 18.0  | No                   |
|                                   |          |                                   | 104  | 5520           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 108  | 5540           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 112  | 5560           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 116  | 5580           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 120  | 5600           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 124  | 5620           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 128  | 5640           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 132  | 5660           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 136  | 5680           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 140  | 5700           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 144  | 5720           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          | 2 Tx<br>HT40<br>CDD/STBC/<br>SDM  | 102  | 5510           | 17.0                            | 17.0  | 14.8   | 17.0  | No                   |
|                                   |          |                                   | 110  | 5550           | 19.5                            | 19.5  | 14.8   | 19.3  |                      |
|                                   |          |                                   | 118  | 5590           | 19.5                            | 19.5  | 14.8   | 19.3  |                      |
|                                   |          |                                   | 126  | 5630           | 19.5                            | 19.5  | 14.8   | 19.3  |                      |
|                                   |          |                                   | 134  | 5670           | 19.5                            | 19.5  | 14.8   | 19.3  |                      |
|                                   |          |                                   | 142  | 5710           | 19.5                            | 19.5  | 14.8   | 19.3  |                      |
|                                   | 802.11ac | 2 Tx<br>VHT20<br>CDD/STBC/<br>SDM | 100  | 5500           | 18.0                            | 18.0  | 14.8   | 18.0  | No                   |
|                                   |          |                                   | 104  | 5520           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 108  | 5540           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 112  | 5560           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 116  | 5580           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
|                                   |          |                                   | 120  | 5600           | 18.0                            | 18.0  | 14.8   | 18.0  |                      |
| 124                               |          |                                   | 5620 | 18.0           | 18.0                            | 14.8  | 18.0   |       |                      |
| 128                               |          |                                   | 5640 | 18.0           | 18.0                            | 14.8  | 18.0   |       |                      |
| 132                               |          |                                   | 5660 | 18.0           | 18.0                            | 14.8  | 18.0   |       |                      |
| 136                               |          |                                   | 5680 | 18.0           | 18.0                            | 14.8  | 18.0   |       |                      |
| 140                               |          |                                   | 5700 | 18.0           | 18.0                            | 14.8  | 18.0   |       |                      |
| 144                               |          |                                   | 5720 | 18.0           | 18.0                            | 14.8  | 18.0   |       |                      |
| 2 Tx<br>VHT40<br>CDD/STBC/<br>SDM |          | 102                               | 5510 | 17.0           | 17.0                            | 14.8  | 17.0   | No    |                      |
|                                   |          | 110                               | 5550 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |
|                                   |          | 118                               | 5590 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |
|                                   |          | 126                               | 5630 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |
|                                   |          | 134                               | 5670 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |
|                                   |          | 142                               | 5710 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |
| 2 Tx<br>VHT80<br>CDD/STBC/<br>SDM |          | 106                               | 5530 | 16.5           | 16.5                            | 14.8  | 16.5   | Yes   |                      |
|                                   |          | 122                               | 5610 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |
|                                   |          | 138                               | 5690 | 19.5           | 19.5                            | 14.8  | 19.3   |       |                      |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

| Band<br>(GHz) | Mode     | No. of<br>Transmitters            | Ch # | Freq.<br>(MHz) | Max. Avg. RF Output Power (dBm) |       |        |       | SAR Test<br>(Yes/No) |
|---------------|----------|-----------------------------------|------|----------------|---------------------------------|-------|--------|-------|----------------------|
|               |          |                                   |      |                | MODE A                          |       | MODE B |       |                      |
|               |          |                                   |      |                | UAT 2                           | LAT 3 | UAT 2  | LAT 3 |                      |
| 5.8           | 802.11a  | 2 Tx<br>CDD                       | 149  | 5745           | 21.0                            | 21.5  | 14.8   | 18.8  | Yes                  |
|               |          |                                   | 153  | 5765           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                                   | 157  | 5785           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                                   | 161  | 5805           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                                   | 165  | 5825           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               | 802.11n  | 2 Tx<br>HT20<br>CDD/STBC/<br>SDM  | 149  | 5745           | 21.0                            | 21.5  | 14.8   | 18.8  | No                   |
|               |          |                                   | 153  | 5765           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                                   | 157  | 5785           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                                   | 161  | 5805           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                                   | 165  | 5825           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          | 2 Tx HT40<br>CDD/STBC/SDM         | 151  | 5755           | 19.5                            | 19.5  | 14.8   | 18.8  | No                   |
|               |          |                                   | 159  | 5795           | 19.5                            | 19.5  | 14.8   | 18.8  |                      |
|               | 802.11ac | 2 Tx<br>VHT20<br>CDD/STBC/<br>SDM | 149  | 5745           | 21.0                            | 21.5  | 14.8   | 18.8  | No                   |
|               |          |                                   | 153  | 5765           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                                   | 157  | 5785           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                                   | 161  | 5805           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          |                                   | 165  | 5825           | 21.0                            | 21.5  | 14.8   | 18.8  |                      |
|               |          | 2 Tx VHT40<br>CDD/STBC/SDM        | 151  | 5755           | 19.5                            | 19.5  | 14.8   | 18.8  | No                   |
|               |          |                                   | 159  | 5795           | 19.5                            | 19.5  | 14.8   | 18.8  |                      |
|               |          | 2 Tx VHT80<br>CDD/STBC/SDM        | 155  | 5775           | 19.5                            | 19.5  | 14.8   | 18.8  | Yes                  |

**Notes:**

1. "Yes" = considered for output power measurement and SAR testing. "No" = SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band.

### 6.3.5. WLAN (P<sub>Cell\_MAX</sub>) and Bluetooth (P<sub>max</sub>)

The maximum output power listed within this Section is only applicable when the device is placed on a proprietary wireless charger. The wireless charger is a desktop device. When the DUT is placed on top of the wireless charger during charging, the DUT shall be kept at least 20cm away from the user in this configuration and is considered to be a mobile device. Refer to the separate MPE Report for evaluation in this use case.

#### UAT 1 and LAT 3

| Band (GHz) | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |               |            |            |
|------------|------|-------------|---------------------------------|---------------|------------|------------|
|            |      |             | 802.11b (1Tx)                   | 802.11g (1Tx) | HT20 (1Tx) | HT20 (2Tx) |
| 2.4        | 1    | 2412        | 20.5                            | 17.5          | 17.5       | 16.5       |
|            | 2    | 2417        | 22.0                            | 19.5          | 19.5       | 18.5       |
|            | 3    | 2422        | 22.0                            | 21.5          | 21.5       | 20.0       |
|            | 4    | 2427        | 22.0                            | 21.5          | 21.5       | 21.5       |
|            | 5    | 2432        | 22.0                            | 21.5          | 21.5       | 21.5       |
|            | 6    | 2437        | 22.0                            | 21.5          | 21.5       | 21.5       |
|            | 7    | 2442        | 22.0                            | 21.5          | 21.5       | 21.5       |
|            | 8    | 2447        | 22.0                            | 21.5          | 21.5       | 21.5       |
|            | 9    | 2452        | 22.0                            | 21.5          | 21.5       | 20.0       |
|            | 10   | 2457        | 22.0                            | 19.5          | 19.5       | 18.5       |
|            | 11   | 2462        | 22.0                            | 17.5          | 17.5       | 16.5       |
|            | 12   | 2467        | 20.5                            | 15.5          | 15.5       | 14.5       |
|            | 13   | 2472        | 19.0                            | 8.0           | 8.0        | 7.0        |

#### UAT 2 and LAT 3

| Band (GHz) | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |            |            |
|------------|------|-------------|---------------------------------|------------|------------|
|            |      |             | 802.11a (1Tx)                   | HT20 (1Tx) | HT20 (2Tx) |
| 5GHz       | 36   | 5180        | 19.0                            | 19.0       | 18.0       |
|            | 40   | 5200        | 21.0                            | 21.0       | 18.0       |
|            | 44   | 5220        | 21.0                            | 21.0       | 18.0       |
|            | 48   | 5240        | 21.0                            | 21.0       | 18.0       |
|            | 52   | 5260        | 21.0                            | 21.0       | 18.0       |
|            | 56   | 5280        | 21.0                            | 21.0       | 18.0       |
|            | 60   | 5300        | 21.0                            | 21.0       | 18.0       |
|            | 64   | 5320        | 19.0                            | 19.0       | 18.0       |
|            | 100  | 5500        | 19.0                            | 19.0       | 18.0       |
|            | 104  | 5520        | 21.0                            | 21.0       | 18.0       |
|            | 108  | 5540        | 21.0                            | 21.0       | 18.0       |
|            | 112  | 5560        | 21.0                            | 21.0       | 18.0       |
|            | 116  | 5580        | 21.0                            | 21.0       | 18.0       |
|            | 120  | 5600        | 21.0                            | 21.0       | 18.0       |
|            | 124  | 5620        | 21.0                            | 21.0       | 18.0       |
|            | 128  | 5640        | 21.0                            | 21.0       | 18.0       |
|            | 132  | 5660        | 21.0                            | 21.0       | 18.0       |
|            | 136  | 5680        | 21.0                            | 21.0       | 18.0       |
|            | 140  | 5700        | 19.0                            | 19.0       | 18.0       |
|            | 144  | 5720        | 21.0                            | 21.0       | 18.0       |
|            | 149  | 5745        | 21.5                            | 21.5       | 21.5       |
|            | 153  | 5765        | 21.5                            | 21.5       | 21.5       |
|            | 157  | 5785        | 21.5                            | 21.5       | 21.5       |
|            | 161  | 5805        | 21.5                            | 21.5       | 21.5       |
|            | 165  | 5825        | 21.5                            | 21.5       | 21.5       |

| Band (GHz) | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |            |
|------------|------|-------------|---------------------------------|------------|
|            |      |             | HT40 (1Tx)                      | HT40 (2Tx) |
| 5GHz       | 38   | 5190        | 18.0                            | 17.0       |
|            | 46   | 5230        | 19.5                            | 19.5       |
|            | 54   | 5270        | 19.5                            | 19.5       |
|            | 62   | 5310        | 18.0                            | 17.0       |
|            | 102  | 5510        | 18.0                            | 17.0       |
|            | 110  | 5550        | 19.5                            | 19.5       |
|            | 118  | 5590        | 19.5                            | 19.5       |
|            | 126  | 5630        | 19.5                            | 19.5       |
|            | 134  | 5670        | 19.5                            | 19.5       |
|            | 142  | 5710        | 19.5                            | 19.5       |
|            | 151  | 5755        | 19.5                            | 19.5       |
|            | 159  | 5795        | 19.5                            | 19.5       |

| Band (GHz) | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |             |
|------------|------|-------------|---------------------------------|-------------|
|            |      |             | VHT80 (1Tx)                     | VHT80 (2Tx) |
| 5GHz       | 42   | 5210        | 17.5                            | 16.5        |
|            | 58   | 5290        | 17.5                            | 16.5        |
|            | 106  | 5530        | 17.5                            | 16.5        |
|            | 122  | 5610        | 19.5                            | 19.5        |
|            | 138  | 5690        | 19.5                            | 19.5        |
|            | 155  | 5775        | 19.5                            | 19.5        |

## UAT 1 and LAT 3

| RF Air interface           | Mode | Max. Avg. RF Output Power (dBm) |       |
|----------------------------|------|---------------------------------|-------|
|                            |      | MODE C                          |       |
|                            |      | UAT 1                           | LAT 3 |
| Bluetooth P <sub>max</sub> | GFSK | 20.0                            | 20.0  |

## 6.4. General LTE SAR Test and Reporting Considerations

| Item                                                        | Description |                                  |                  |                  |                  |                  |
|-------------------------------------------------------------|-------------|----------------------------------|------------------|------------------|------------------|------------------|
| Frequency range, Channel Bandwidth, Numbers and Frequencies | Band 2      | Frequency range: 1850 - 1910 MHz |                  |                  |                  |                  |
|                                                             |             | Channel Bandwidth                |                  |                  |                  |                  |
|                                                             |             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            |
|                                                             | Low         | 18700/<br>1860                   | 18675/<br>1857.5 | 18650/<br>1855   | 18625/<br>1852.5 | 18615/<br>1851.5 |
|                                                             |             |                                  |                  |                  |                  | 18607/<br>1850.7 |
|                                                             | Mid         | 18900/<br>1880                   | 18900/<br>1880   | 18900/<br>1880   | 18900/<br>1880   | 18900/<br>1880   |
|                                                             |             |                                  |                  |                  |                  |                  |
|                                                             | High        | 19100/<br>1900                   | 19125/<br>1902.5 | 19150/<br>1905   | 19175/<br>1907.5 | 19185/<br>1908.5 |
|                                                             |             |                                  |                  |                  |                  | 19193/<br>1909.3 |
|                                                             | Band 4      | Frequency range: 1710 - 1755 MHz |                  |                  |                  |                  |
|                                                             |             | Channel Bandwidth                |                  |                  |                  |                  |
|                                                             |             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            |
|                                                             | Low         | 20050/<br>1720                   | 20025/<br>1717.5 | 20000/<br>1715   | 19975/<br>1712.5 | 19965/<br>1711.5 |
|                                                             |             |                                  |                  |                  |                  | 19957/<br>1710.7 |
|                                                             | Mid         | 20175/<br>1732.5                 | 20175/<br>1732.5 | 20175/<br>1732.5 | 20175/<br>1732.5 | 20175/<br>1732.5 |
|                                                             |             |                                  |                  |                  |                  |                  |
|                                                             | High        | 20300/<br>1745                   | 20325/<br>1747.5 | 20350/<br>1750   | 20375/<br>1752.5 | 20385/<br>1753.5 |
|                                                             |             |                                  |                  |                  |                  | 20393/<br>1754.3 |
|                                                             | Band 5      | Frequency range: 824 - 849 MHz   |                  |                  |                  |                  |
|                                                             |             | Channel Bandwidth                |                  |                  |                  |                  |
|                                                             |             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            |
|                                                             | Low         |                                  |                  | 20450/<br>829    | 20425/<br>826.5  | 20415/<br>825.5  |
|                                                             |             |                                  |                  |                  |                  | 20407/<br>824.7  |
|                                                             | Mid         |                                  |                  | 20525/<br>836.5  | 20525/<br>836.5  | 20525/<br>836.5  |
|                                                             |             |                                  |                  |                  |                  | 20525/<br>836.5  |
|                                                             | High        |                                  |                  | 20600/<br>844    | 20625/<br>846.5  | 20635/<br>847.5  |
|                                                             |             |                                  |                  |                  |                  | 20643/<br>848.3  |
|                                                             | Band 7      | Frequency range: 2500 - 2570 MHz |                  |                  |                  |                  |
|                                                             |             | Channel Bandwidth                |                  |                  |                  |                  |
|                                                             |             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            |
|                                                             | Low         | 20850<br>2510                    | 20825<br>2507.5  | 20800<br>2505    | 20775<br>2502.5  |                  |
|                                                             |             |                                  |                  |                  |                  |                  |
|                                                             | Mid         | 21100<br>2535                    | 21100<br>2535    | 21100<br>2535    | 21100<br>2535    |                  |
|                                                             |             |                                  |                  |                  |                  |                  |
|                                                             | High        | 21350<br>2560                    | 21375<br>2562.5  | 21400<br>2565    | 21425<br>2567.5  |                  |
|                                                             |             |                                  |                  |                  |                  |                  |
|                                                             | Band 12     | Frequency range: 699 – 716 MHz   |                  |                  |                  |                  |
|                                                             |             | Channel Bandwidth                |                  |                  |                  |                  |
|                                                             |             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            |
|                                                             | Low         |                                  |                  |                  | 23035/<br>701.5  | 23025/<br>700.5  |
|                                                             |             |                                  |                  |                  |                  | 23017/<br>699.7  |
|                                                             | Mid         |                                  |                  | 23095/<br>707.5  | 23095/<br>707.5  | 23095/<br>707.5  |
|                                                             |             |                                  |                  |                  |                  | 23095/<br>707.5  |
|                                                             | High        |                                  |                  |                  | 23155/<br>713.5  | 23165/<br>714.5  |
|                                                             |             |                                  |                  |                  |                  | 23173/<br>715.3  |
|                                                             | Band 13     | Frequency range: 777 - 787 MHz   |                  |                  |                  |                  |
|                                                             |             | Channel Bandwidth                |                  |                  |                  |                  |
|                                                             |             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            |
|                                                             | Low         |                                  |                  |                  |                  |                  |
|                                                             |             |                                  |                  |                  |                  |                  |
|                                                             | Mid         |                                  |                  | 23230/<br>782    | 23230/<br>782    |                  |
|                                                             |             |                                  |                  |                  |                  |                  |
|                                                             | High        |                                  |                  |                  |                  |                  |
|                                                             |             |                                  |                  |                  |                  |                  |

**General LTE SAR Test and Reporting Considerations (Continued)**

|                                                             |                                                                                                                                                                                                      |                                  |                   |                  |                   |                  |                  |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------|------------------|-------------------|------------------|------------------|
| Frequency range, Channel Bandwidth, Numbers and Frequencies | Band 17                                                                                                                                                                                              | Frequency range: 704 - 716 MHz   |                   |                  |                   |                  |                  |
|                                                             |                                                                                                                                                                                                      | Channel Bandwidth                |                   |                  |                   |                  |                  |
|                                                             |                                                                                                                                                                                                      | 20 MHz                           | 15 MHz            | 10 MHz           | 5 MHz             | 3 MHz            | 1.4 MHz          |
|                                                             | Low                                                                                                                                                                                                  |                                  |                   |                  | 23755/<br>706.5   |                  |                  |
|                                                             | Mid                                                                                                                                                                                                  |                                  |                   | 23790/<br>710    | 23790/<br>710     |                  |                  |
|                                                             | High                                                                                                                                                                                                 |                                  |                   |                  | 23825/<br>713.5   |                  |                  |
|                                                             | Band 25                                                                                                                                                                                              | Frequency range: 1850 - 1915 MHz |                   |                  |                   |                  |                  |
|                                                             |                                                                                                                                                                                                      | Channel Bandwidth                |                   |                  |                   |                  |                  |
|                                                             |                                                                                                                                                                                                      | 20 MHz                           | 15 MHz            | 10 MHz           | 5 MHz             | 3 MHz            | 1.4 MHz          |
|                                                             | Low                                                                                                                                                                                                  | 26140/<br>1860                   | 26115/<br>1857.5  | 26090/<br>1855   | 26065/<br>1852.5  | 26055/<br>1851.5 | 26047/<br>1850.7 |
|                                                             | Mid                                                                                                                                                                                                  | 26365/<br>1882.5                 | 26365/<br>1882.5  | 26365/<br>1882.5 | 26365/<br>1882.5  | 26365/<br>1882.5 | 26365/<br>1882.5 |
|                                                             | High                                                                                                                                                                                                 | 26590/<br>1905                   | 26615/<br>1907.5  | 26640/<br>1910   | 26665/<br>1912.5  | 26675/<br>1913.5 | 26683/<br>1914.3 |
|                                                             | Band 26                                                                                                                                                                                              | Frequency range: 814 - 849 MHz   |                   |                  |                   |                  |                  |
|                                                             |                                                                                                                                                                                                      | Channel Bandwidth                |                   |                  |                   |                  |                  |
|                                                             |                                                                                                                                                                                                      | 20 MHz                           | 15 MHz            | 10 MHz           | 5 MHz             | 3 MHz            | 1.4 MHz          |
|                                                             | Low                                                                                                                                                                                                  |                                  |                   | 26740/<br>819    | 26715/<br>816.5   | 26705/<br>815.5  | 26697/<br>814.7  |
|                                                             | Mid                                                                                                                                                                                                  |                                  |                   | 26865/<br>831.5  | 26865/<br>831.5   | 26865/<br>831.5  | 26865/<br>831.5  |
|                                                             | High                                                                                                                                                                                                 |                                  |                   | 26990/<br>844    | 27015/<br>846.5   | 27025/<br>847.5  | 27033/<br>848.3  |
|                                                             | Band 30                                                                                                                                                                                              | Frequency range: 2305 - 2315 MHz |                   |                  |                   |                  |                  |
|                                                             |                                                                                                                                                                                                      | Channel Bandwidth                |                   |                  |                   |                  |                  |
|                                                             |                                                                                                                                                                                                      | 20 MHz                           | 15 MHz            | 10 MHz           | 5 MHz             | 3 MHz            | 1.4 MHz          |
|                                                             | Low                                                                                                                                                                                                  |                                  |                   |                  |                   |                  |                  |
|                                                             | Mid                                                                                                                                                                                                  |                                  |                   | 27710/<br>2310   | 27710/<br>2310    |                  |                  |
|                                                             | High                                                                                                                                                                                                 |                                  |                   |                  |                   |                  |                  |
|                                                             | Band 41                                                                                                                                                                                              | Frequency range: 2496 - 2690 MHz |                   |                  |                   |                  |                  |
|                                                             |                                                                                                                                                                                                      | Channel Bandwidth                |                   |                  |                   |                  |                  |
|                                                             |                                                                                                                                                                                                      | 20 MHz                           | 15 MHz            | 10 MHz           | 5 MHz             | 3 MHz            | 1.4 MHz          |
|                                                             | Low                                                                                                                                                                                                  | 39750 / 2506.0                   |                   |                  |                   |                  |                  |
|                                                             | Low-Mid                                                                                                                                                                                              | 40185 / 2549.5                   |                   |                  |                   |                  |                  |
|                                                             | Mid                                                                                                                                                                                                  | 40620 / 2593.0                   |                   |                  |                   |                  |                  |
|                                                             | Mid-High                                                                                                                                                                                             | 41055 / 2636.5                   |                   |                  |                   |                  |                  |
|                                                             | High                                                                                                                                                                                                 | 41490 / 2680.0                   |                   |                  |                   |                  |                  |
|                                                             | Band 66                                                                                                                                                                                              | Frequency range: 1710 - 1780 MHz |                   |                  |                   |                  |                  |
|                                                             |                                                                                                                                                                                                      | Channel Bandwidth                |                   |                  |                   |                  |                  |
|                                                             |                                                                                                                                                                                                      | 20 MHz                           | 15 MHz            | 10 MHz           | 5 MHz             | 3 MHz            | 1.4 MHz          |
|                                                             | Low                                                                                                                                                                                                  | 132072/<br>1720                  | 132047/<br>1717.5 | 132022/<br>1715  | 131997/<br>1712.5 |                  |                  |
|                                                             | Mid                                                                                                                                                                                                  | 132322/<br>1745                  | 132322/<br>1745   | 132322/<br>1745  | 132322/<br>1745   |                  |                  |
|                                                             | High                                                                                                                                                                                                 | 132572/<br>1770                  | 132597/<br>1772.5 | 132622/<br>1775  | 132647/<br>1777.5 |                  |                  |
| LTE transmitter and antenna implementation                  | LTE can transmit from either UAT 1 or LAT 1. The antenna switching is implemented with a physical, "break-before-make" switch such that only one antenna can be used for LTE transmission at a time. |                                  |                   |                  |                   |                  |                  |

| Maximum power reduction (MPR)                                           | <table><tr><th colspan="8">Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 3</th></tr><tr><th rowspan="2">Modulation</th><th colspan="6">Channel bandwidth / Transmission bandwidth (N<sub>RB</sub>)</th><th rowspan="2">MPR (dB)</th></tr><tr><th>1.4 MHz</th><th>3.0 MHz</th><th>5 MHz</th><th>10 MHz</th><th>15 MHz</th><th>20 MHz</th></tr><tr><td>QPSK</td><td>&gt; 5</td><td>&gt; 4</td><td>&gt; 8</td><td>&gt; 12</td><td>&gt; 16</td><td>&gt; 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 1</td></tr><tr><td>16 QAM</td><td>&gt; 5</td><td>&gt; 4</td><td>&gt; 8</td><td>&gt; 12</td><td>&gt; 16</td><td>&gt; 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>≤ 5</td><td>≤ 4</td><td>≤ 8</td><td>≤ 12</td><td>≤ 16</td><td>≤ 18</td><td>≤ 2</td></tr><tr><td>64 QAM</td><td>&gt; 5</td><td>&gt; 4</td><td>&gt; 8</td><td>&gt; 12</td><td>&gt; 16</td><td>&gt; 18</td><td>≤ 3</td></tr><tr><td>256 QAM</td><td colspan="6">≥ 1</td><td>≤ 5</td></tr></table> <p>MPR Built-in by design. The manufacturer Target MPR values are always within the 3GPP maximum MPR allowance but may not follow the default MPR values.</p> <p>A-MPR (additional MPR) was disabled during SAR testing.</p> | Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 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 | 64 QAM | ≤ 5 | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | ≤ 2 | 64 QAM | > 5 | > 4 | > 8 | > 12 | > 16 | > 18 | ≤ 3 | 256 QAM | ≥ 1 |  |  |  |  |  | ≤ 5 |
|-------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|-------|--------|--------|--------|----------|--|--|------------|---------------------------------------------------------------|--|--|--|--|--|----------|---------|---------|-------|--------|--------|--------|------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|--------|-----|-----|-----|------|------|------|-----|---------|-----|--|--|--|--|--|-----|
| Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 1, 2 and 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      |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| 64 QAM                                                                  | ≤ 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ≤ 4                                                                     | ≤ 8   | ≤ 12   | ≤ 16   | ≤ 18   | ≤ 2      |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| 64 QAM                                                                  | > 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | > 4                                                                     | > 8   | > 12   | > 16   | > 18   | ≤ 3      |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| 256 QAM                                                                 | ≥ 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                         |       |        |        |        | ≤ 5      |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |
| Spectrum plots for RB configurations                                    | <p>A properly configured base station simulator was used for the SAR and power measurements; therefore, spectrum plots for each RB allocation and offset configuration are not included in the SAR report.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                         |       |        |        |        |          |  |  |            |                                                               |  |  |  |  |  |          |         |         |       |        |        |        |      |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |        |     |     |     |      |      |      |     |         |     |  |  |  |  |  |     |

**Notes:**

1. SAR Testing for LTE was performed with the same number of RB and RB offsets transmitting on all TTI frames (maximum TTI).

## 6.5. LTE (TDD) Considerations

According to KDB 941225 D05 SAR for LTE Devices, 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.

SAR was tested with the highest transmission duty factor (63.33%) using Uplink-downlink configuration 0 and Special subframe configuration 7.

LTE TDD Bands support 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.

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                              | $13168 \cdot T_s$                |                                |                                  | -                                  | -                              | -                                |

### Calculated Duty Cycle

| Uplink-Downlink Configuration | Downlink-to-Uplink Switch-point Periodicity | Subframe Number |   |   |   |   |   |   |   |   |   | Calculated Duty Cycle (%) |
|-------------------------------|---------------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|---------------------------|
|                               |                                             | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |                           |
| 0                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | U | 63.33                     |
| 1                             | 5 ms                                        | D               | S | U | U | D | D | S | U | U | D | 43.33                     |
| 2                             | 5 ms                                        | D               | S | U | D | D | D | S | U | D | D | 23.33                     |
| 3                             | 10 ms                                       | D               | S | U | U | U | D | D | D | D | D | 31.67                     |
| 4                             | 10 ms                                       | D               | S | U | U | D | D | D | D | D | D | 21.67                     |
| 5                             | 10 ms                                       | D               | S | U | D | D | D | D | D | D | D | 11.67                     |
| 6                             | 5 ms                                        | D               | S | U | U | U | D | S | U | U | D | 53.33                     |

Calculated Duty Cycle = Extended cyclic prefix in uplink  $\times (T_s) \times \#$  of S +  $\#$  of U

Example for Calculated Duty Cycle for Uplink-Downlink Configuration 0:

Calculated Duty Cycle =  $5120 \times [1/(15000 \times 2048)] \times 2 + 6 \text{ ms} = 63.33\%$

where

$T_s = 1/(15000 \times 2048)$  seconds

### Note(s):

This device supports uplink-downlink configurations 0-6. The configuration with highest duty cycle was used-configuration 0 at 63.3% duty cycle.

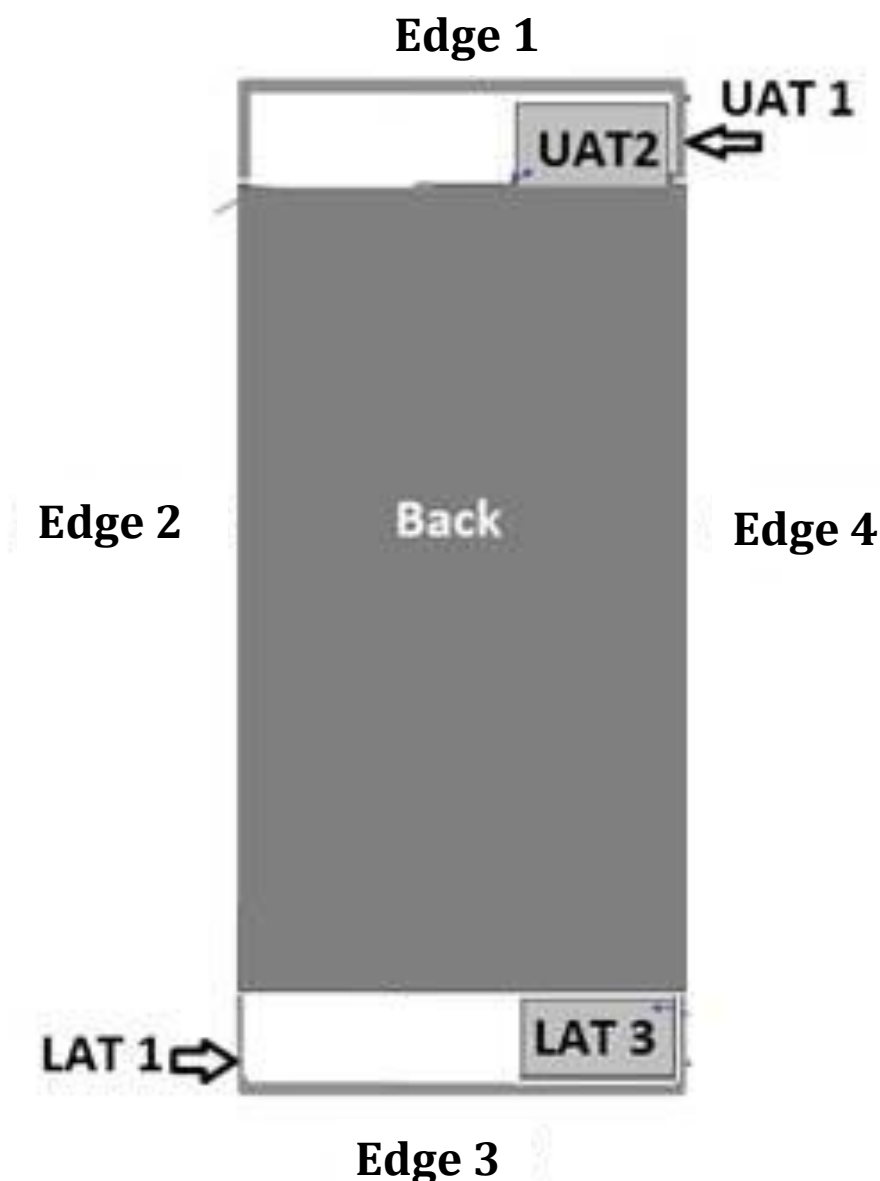
## 7. RF Exposure Conditions (Test Configurations)

WWAN antennas are located near the upper and lower edge of the device. The upper antenna for 2.4 GHz WLAN and Bluetooth (UAT 1) is shared and is located near the upper edge of the device, while the upper antenna for 5 GHz WLAN (UAT 2) is located near the upper left corner of the device. All WLAN bands and Bluetooth share the same lower antenna (LAT3), and this is located near the lower left corner of the device. Refer to Antenna Diagram below:

Refer to separate filing submission document for the proprietary design details of the antenna-to-antenna and antenna-to-edge(s) distances.

The Body-worn accessory test configurations were tested using a conservative minimum test separation distance of 5 mm.

**Antenna Diagram**



**Upper Antenna**

| Wireless technologies              | RF Exposure Conditions | DUT-to-User Separation | Test Position    | Antenna-to-edge/surface | SAR Required | Note |
|------------------------------------|------------------------|------------------------|------------------|-------------------------|--------------|------|
| WWAN (UAT 1)                       | Head                   | 0 mm                   | Left Touch       | N/A                     | Yes          |      |
|                                    |                        |                        | Left Tilt (15°)  | N/A                     | Yes          |      |
|                                    |                        |                        | Right Touch      | N/A                     | Yes          |      |
|                                    |                        |                        | Right Tilt (15°) | N/A                     | Yes          |      |
|                                    | Body                   | 5 mm                   | Rear             | < 25 mm                 | Yes          | 2    |
|                                    |                        |                        | Front            | < 25 mm                 | Yes          | 2    |
|                                    | Hotspot                | 5 mm                   | Rear             | < 25 mm                 | Yes          |      |
|                                    |                        |                        | Front            | < 25 mm                 | Yes          |      |
|                                    |                        |                        | Edge 1 (Top)     | < 25 mm                 | Yes          |      |
|                                    |                        |                        | Edge 2 (Right)   | < 25 mm                 | Yes          |      |
|                                    |                        |                        | Edge 3 (Bottom)  | > 25 mm                 | No           | 1    |
|                                    |                        |                        | Edge 4 (Left)    | < 25 mm                 | Yes          |      |
| WLAN 2.4 GHz and Bluetooth (UAT 1) | Head                   | 0 mm                   | Left Touch       | N/A                     | Yes          |      |
|                                    |                        |                        | Left Tilt (15°)  | N/A                     | Yes          |      |
|                                    |                        |                        | Right Touch      | N/A                     | Yes          |      |
|                                    |                        |                        | Right Tilt (15°) | N/A                     | Yes          |      |
|                                    | Body                   | 5 mm                   | Rear             | < 25 mm                 | Yes          | 2    |
|                                    |                        |                        | Front            | < 25 mm                 | Yes          | 2    |
|                                    | Hotspot                | 5 mm                   | Rear             | < 25 mm                 | Yes          |      |
|                                    |                        |                        | Front            | < 25 mm                 | Yes          |      |
|                                    |                        |                        | Edge 1 (Top)     | < 25 mm                 | Yes          |      |
|                                    |                        |                        | Edge 2 (Right)   | < 25 mm                 | Yes          |      |
|                                    |                        |                        | Edge 3 (Bottom)  | > 25 mm                 | No           | 1    |
|                                    |                        |                        | Edge 4 (Left)    | < 25 mm                 | Yes          |      |
| WLAN 5 GHz (UAT 2)                 | Head                   | 0 mm                   | Left Touch       | N/A                     | Yes          |      |
|                                    |                        |                        | Left Tilt (15°)  | N/A                     | Yes          |      |
|                                    |                        |                        | Right Touch      | N/A                     | Yes          |      |
|                                    |                        |                        | Right Tilt (15°) | N/A                     | Yes          |      |
|                                    | Body                   | 5 mm                   | Rear             | < 25 mm                 | Yes          | 2    |
|                                    |                        |                        | Front            | < 25 mm                 | Yes          | 2    |
|                                    | Hotspot                | 5 mm                   | Rear             | < 25 mm                 | Yes          |      |
|                                    |                        |                        | Front            | < 25 mm                 | Yes          |      |
|                                    |                        |                        | Edge 1 (Top)     | < 25 mm                 | Yes          |      |
|                                    |                        |                        | Edge 2 (Right)   | > 25 mm                 | No           | 1    |
|                                    |                        |                        | Edge 3 (Bottom)  | > 25 mm                 | No           | 1    |
|                                    |                        |                        | Edge 4 (Left)    | < 25 mm                 | Yes          |      |

**Notes:**

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot Mode.
2. The Body-worn minimum separation distance is 5 mm. To cover both body-worn and hotspot RF exposure conditions testing was performed at a separation distance of 5 mm.

**Lower Antenna**

| Wireless technologies      | RF Exposure Conditions | DUT-to-User Separation | Test Position    | Antenna-to-edge/surface | SAR Required | Note |
|----------------------------|------------------------|------------------------|------------------|-------------------------|--------------|------|
| WWAN (LAT 1)               | Head                   | 0 mm                   | Left Touch       | N/A                     | Yes          |      |
|                            |                        |                        | Left Tilt (15°)  | N/A                     | Yes          |      |
|                            |                        |                        | Right Touch      | N/A                     | Yes          |      |
|                            |                        |                        | Right Tilt (15°) | N/A                     | Yes          |      |
|                            | Body                   | 5 mm                   | Rear             | < 25 mm                 | Yes          | 2    |
|                            |                        |                        | Front            | < 25 mm                 | Yes          | 2    |
|                            | Hotspot                | 5 mm                   | Rear             | < 25 mm                 | Yes          |      |
|                            |                        |                        | Front            | < 25 mm                 | Yes          |      |
|                            |                        |                        | Edge 1 (Top)     | > 25 mm                 | No           | 1    |
|                            |                        |                        | Edge 2 (Right)   | < 25 mm                 | Yes          |      |
|                            |                        |                        | Edge 3 (Bottom)  | < 25 mm                 | Yes          |      |
|                            |                        |                        | Edge 4 (Left)    | < 25 mm                 | Yes          |      |
| WLAN and Bluetooth (LAT 3) | Head                   | 0 mm                   | Left Touch       | N/A                     | Yes          |      |
|                            |                        |                        | Left Tilt (15°)  | N/A                     | Yes          |      |
|                            |                        |                        | Right Touch      | N/A                     | Yes          |      |
|                            |                        |                        | Right Tilt (15°) | N/A                     | Yes          |      |
|                            | Body                   | 5 mm                   | Rear             | < 25 mm                 | Yes          | 2    |
|                            |                        |                        | Front            | < 25 mm                 | Yes          | 2    |
|                            | Hotspot                | 5 mm                   | Rear             | < 25 mm                 | Yes          |      |
|                            |                        |                        | Front            | < 25 mm                 | Yes          |      |
|                            |                        |                        | Edge 1 (Top)     | > 25 mm                 | No           | 1    |
|                            |                        |                        | Edge 2 (Right)   | > 25 mm                 | No           | 1    |
|                            |                        |                        | Edge 3 (Bottom)  | < 25 mm                 | Yes          |      |
|                            |                        |                        | Edge 4 (Left)    | < 25 mm                 | Yes          |      |

**Notes:**

1. SAR is not required because the distance from the antenna to the edge is > 25 mm as per KDB 941225 D06 Hotspot Mode.
2. The Body-worn minimum separation distance is 5 mm. To cover both body-worn and hotspot RF exposure conditions testing was performed at a separation distance of 5 mm.

## 8. Dielectric Property Measurements & System Check

### 8.1. Dielectric Property Measurements

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; for example, when the parameters are marginal at the beginning of the measurement series.

Tissue dielectric parameters were measured at the low, middle and high frequency of each operating frequency range of the test device.

The dielectric constant ( $\epsilon_r$ ) and conductivity ( $\sigma$ ) of typical tissue-equivalent media recipes are expected to be within  $\pm 5\%$  of the required target values; but for SAR measurement systems that have implemented the SAR error compensation algorithms documented in IEEE Std 1528-2013, to automatically compensate the measured SAR results for deviations between the measured and required tissue dielectric parameters, the tolerance for  $\epsilon_r$  and  $\sigma$  may be relaxed to  $\pm 10\%$ . This is limited to frequencies  $\leq 3$  GHz.

#### Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

| Target Frequency (MHz) | Head         |                | Body         |                |
|------------------------|--------------|----------------|--------------|----------------|
|                        | $\epsilon_r$ | $\sigma$ (S/m) | $\epsilon_r$ | $\sigma$ (S/m) |
| 150                    | 52.3         | 0.76           | 61.9         | 0.80           |
| 300                    | 45.3         | 0.87           | 58.2         | 0.92           |
| 450                    | 43.5         | 0.87           | 56.7         | 0.94           |
| 835                    | 41.5         | 0.90           | 55.2         | 0.97           |
| 900                    | 41.5         | 0.97           | 55.0         | 1.05           |
| 915                    | 41.5         | 0.98           | 55.0         | 1.06           |
| 1450                   | 40.5         | 1.20           | 54.0         | 1.30           |
| 1610                   | 40.3         | 1.29           | 53.8         | 1.40           |
| 1800 – 2000            | 40.0         | 1.40           | 53.3         | 1.52           |
| 2450                   | 39.2         | 1.80           | 52.7         | 1.95           |
| 3000                   | 38.5         | 2.40           | 52.0         | 2.73           |
| 5000                   | 36.2         | 4.45           | 49.3         | 5.07           |
| 5100                   | 36.1         | 4.55           | 49.1         | 5.18           |
| 5200                   | 36.0         | 4.66           | 49.0         | 5.30           |
| 5300                   | 35.9         | 4.76           | 48.9         | 5.42           |
| 5400                   | 35.8         | 4.86           | 48.7         | 5.53           |
| 5500                   | 35.6         | 4.96           | 48.6         | 5.65           |
| 5600                   | 35.5         | 5.07           | 48.5         | 5.77           |
| 5700                   | 35.4         | 5.17           | 48.3         | 5.88           |
| 5800                   | 35.3         | 5.27           | 48.2         | 6.00           |

#### IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

**Dielectric Property Measurements Results:**

| SAR Lab | Date      | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity ( $\epsilon_r$ ) |        |           | Conductivity ( $\sigma$ ) |        |           |
|---------|-----------|------------|-------------|-----------------|----------------------------------------|--------|-----------|---------------------------|--------|-----------|
|         |           |            |             |                 | Measured                               | Target | Delta (%) | Measured                  | Target | Delta (%) |
| A       | 7/24/2017 | 835        | Body        | 835             | 53.41                                  | 55.20  | -3.24     | 1.02                      | 0.97   | 4.74      |
|         |           |            |             | 805             | 53.73                                  | 55.33  | -2.90     | 0.98                      | 0.97   | 1.82      |
|         |           |            |             | 905             | 52.74                                  | 55.00  | -4.11     | 1.09                      | 1.05   | 3.47      |
| A       | 7/27/2017 | 2300       | Body        | 2300            | 51.63                                  | 52.90  | -2.41     | 1.87                      | 1.80   | 3.91      |
|         |           |            |             | 2350            | 51.47                                  | 52.84  | -2.59     | 1.94                      | 1.85   | 4.61      |
|         |           |            |             | 2400            | 51.34                                  | 52.77  | -2.71     | 1.99                      | 1.90   | 4.85      |
| A       | 7/27/2017 | 2300       | Head        | 2300            | 39.22                                  | 39.47  | -0.64     | 1.72                      | 1.66   | 3.44      |
|         |           |            |             | 2350            | 39.02                                  | 39.38  | -0.93     | 1.78                      | 1.71   | 4.00      |
|         |           |            |             | 2400            | 38.83                                  | 39.30  | -1.19     | 1.83                      | 1.75   | 4.36      |
| A       | 7/28/2017 | 835        | Body        | 835             | 53.04                                  | 55.20  | -3.91     | 1.00                      | 0.97   | 3.00      |
|         |           |            |             | 805             | 53.36                                  | 55.33  | -3.57     | 0.97                      | 0.97   | 0.07      |
|         |           |            |             | 905             | 52.32                                  | 55.00  | -4.87     | 1.07                      | 1.05   | 1.47      |
| A       | 7/30/2017 | 2300       | Body        | 2300            | 50.87                                  | 52.90  | -3.85     | 1.88                      | 1.80   | 3.96      |
|         |           |            |             | 2350            | 50.64                                  | 52.84  | -4.16     | 1.93                      | 1.85   | 4.06      |
|         |           |            |             | 2400            | 50.52                                  | 52.77  | -4.27     | 1.98                      | 1.90   | 4.11      |
| A       | 7/30/2017 | 2300       | Head        | 2300            | 38.37                                  | 39.47  | -2.79     | 1.67                      | 1.66   | 0.50      |
|         |           |            |             | 2350            | 38.15                                  | 39.38  | -3.13     | 1.72                      | 1.71   | 0.49      |
|         |           |            |             | 2400            | 38.02                                  | 39.30  | -3.25     | 1.76                      | 1.75   | 0.71      |
| A       | 7/31/2017 | 835        | Body        | 835             | 54.46                                  | 55.20  | -1.34     | 1.01                      | 0.97   | 4.12      |
|         |           |            |             | 805             | 54.76                                  | 55.33  | -1.04     | 0.98                      | 0.97   | 1.68      |
|         |           |            |             | 905             | 53.90                                  | 55.00  | -2.00     | 1.08                      | 1.05   | 2.99      |
| A       | 8/3/2017  | 2300       | Head        | 2300            | 39.51                                  | 39.47  | 0.09      | 1.69                      | 1.66   | 1.46      |
|         |           |            |             | 2350            | 39.28                                  | 39.38  | -0.27     | 1.75                      | 1.71   | 2.18      |
|         |           |            |             | 2400            | 39.12                                  | 39.30  | -0.45     | 1.79                      | 1.75   | 2.25      |
| A       | 8/3/2017  | 2300       | Body        | 2300            | 52.36                                  | 52.90  | -1.03     | 1.87                      | 1.80   | 3.52      |
|         |           |            |             | 2350            | 52.15                                  | 52.84  | -1.30     | 1.93                      | 1.85   | 4.28      |
|         |           |            |             | 2400            | 52.04                                  | 52.77  | -1.39     | 1.98                      | 1.90   | 4.37      |
| A       | 8/3/2017  | 2600       | Body        | 2600            | 51.73                                  | 52.51  | -1.49     | 2.15                      | 2.16   | -0.45     |
|         |           |            |             | 2495            | 52.00                                  | 52.64  | -1.22     | 2.02                      | 2.01   | 0.43      |
|         |           |            |             | 2690            | 51.45                                  | 52.40  | -1.81     | 2.26                      | 2.29   | -1.41     |
| A       | 8/4/2017  | 835        | Body        | 835             | 55.40                                  | 55.20  | 0.36      | 1.02                      | 0.97   | 4.74      |
|         |           |            |             | 805             | 55.60                                  | 55.33  | 0.48      | 0.98                      | 0.97   | 1.59      |
|         |           |            |             | 905             | 54.74                                  | 55.00  | -0.47     | 1.09                      | 1.05   | 3.37      |
| A       | 8/7/2017  | 835        | Head        | 835             | 40.86                                  | 41.50  | -1.54     | 0.89                      | 0.90   | -1.27     |
|         |           |            |             | 805             | 41.25                                  | 41.68  | -1.03     | 0.91                      | 0.90   | 1.96      |
|         |           |            |             | 905             | 40.03                                  | 41.50  | -3.54     | 0.98                      | 0.97   | 0.87      |
| A       | 8/9/2017  | 835        | Body        | 835             | 53.22                                  | 55.20  | -3.59     | 1.00                      | 0.97   | 2.79      |
|         |           |            |             | 805             | 53.52                                  | 55.33  | -3.28     | 0.97                      | 0.97   | 0.06      |
|         |           |            |             | 905             | 52.63                                  | 55.00  | -4.31     | 1.08                      | 1.05   | 2.14      |
| A       | 8/10/2017 | 2450       | Body        | 2450            | 50.61                                  | 52.70  | -3.97     | 2.03                      | 1.95   | 4.10      |
|         |           |            |             | 2400            | 50.76                                  | 52.77  | -3.81     | 1.97                      | 1.90   | 3.90      |
|         |           |            |             | 2480            | 50.55                                  | 52.66  | -4.01     | 2.07                      | 1.99   | 3.76      |
| A       | 8/10/2017 | 1900       | Body        | 1900            | 51.30                                  | 53.30  | -3.75     | 1.55                      | 1.52   | 1.97      |
|         |           |            |             | 1850            | 51.49                                  | 53.30  | -3.40     | 1.50                      | 1.52   | -1.38     |
|         |           |            |             | 1920            | 51.26                                  | 53.30  | -3.83     | 1.56                      | 1.52   | 2.83      |
| A       | 8/14/2017 | 2600       | Head        | 2600            | 37.36                                  | 39.01  | -4.23     | 2.06                      | 1.96   | 4.88      |
|         |           |            |             | 2495            | 37.73                                  | 39.14  | -3.61     | 1.93                      | 1.85   | 4.56      |
|         |           |            |             | 2690            | 37.06                                  | 38.90  | -4.72     | 2.15                      | 2.06   | 4.59      |
| A       | 8/14/2017 | 2600       | Body        | 2600            | 53.00                                  | 52.51  | 0.93      | 2.24                      | 2.16   | 3.57      |
|         |           |            |             | 2495            | 53.32                                  | 52.64  | 1.29      | 2.10                      | 2.01   | 4.31      |
|         |           |            |             | 2690            | 52.71                                  | 52.40  | 0.60      | 2.35                      | 2.29   | 2.52      |
| A       | 8/16/2017 | 2450       | Head        | 2450            | 40.72                                  | 39.20  | 3.88      | 1.88                      | 1.80   | 4.56      |
|         |           |            |             | 2400            | 40.86                                  | 39.30  | 3.98      | 1.83                      | 1.75   | 4.24      |
|         |           |            |             | 2480            | 40.60                                  | 39.16  | 3.67      | 1.92                      | 1.83   | 4.56      |

**Dielectric Property Measurements Results:**

| SAR Lab | Date      | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity ( $\epsilon_r$ ) |        |           | Conductivity ( $\sigma$ ) |        |           |
|---------|-----------|------------|-------------|-----------------|----------------------------------------|--------|-----------|---------------------------|--------|-----------|
|         |           |            |             |                 | Measured                               | Target | Delta (%) | Measured                  | Target | Delta (%) |
| B       | 7/24/2017 | 750        | Head        | 750             | 40.17                                  | 41.96  | -4.27     | 0.90                      | 0.89   | 0.36      |
|         |           |            |             | 695             | 40.87                                  | 42.24  | -3.25     | 0.85                      | 0.89   | -4.26     |
|         |           |            |             | 790             | 39.69                                  | 41.76  | -4.95     | 0.93                      | 0.90   | 3.82      |
| B       | 7/27/2017 | 1750       | Head        | 1750            | 39.89                                  | 40.08  | -0.49     | 1.34                      | 1.37   | -2.04     |
|         |           |            |             | 1710            | 40.05                                  | 40.15  | -0.24     | 1.31                      | 1.35   | -3.00     |
|         |           |            |             | 1755            | 39.86                                  | 40.08  | -0.54     | 1.35                      | 1.37   | -1.81     |
| B       | 7/27/2017 | 1750       | Body        | 1750            | 51.04                                  | 53.44  | -4.49     | 1.48                      | 1.49   | -0.14     |
|         |           |            |             | 1710            | 51.14                                  | 53.54  | -4.49     | 1.45                      | 1.46   | -0.79     |
|         |           |            |             | 1755            | 51.00                                  | 53.43  | -4.54     | 1.49                      | 1.49   | 0.12      |
| B       | 7/28/2017 | 750        | Body        | 750             | 54.92                                  | 55.55  | -1.13     | 0.97                      | 0.96   | 0.99      |
|         |           |            |             | 695             | 55.50                                  | 55.76  | -0.46     | 0.92                      | 0.96   | -3.86     |
|         |           |            |             | 790             | 54.56                                  | 55.39  | -1.50     | 1.01                      | 0.97   | 4.85      |
| B       | 7/30/2017 | 1750       | Body        | 1750            | 51.62                                  | 53.44  | -3.41     | 1.47                      | 1.49   | -0.95     |
|         |           |            |             | 1710            | 51.73                                  | 53.54  | -3.39     | 1.44                      | 1.46   | -1.68     |
|         |           |            |             | 1755            | 51.62                                  | 53.43  | -3.38     | 1.48                      | 1.49   | -0.75     |
| B       | 7/30/2017 | 1750       | Head        | 1750            | 40.83                                  | 40.08  | 1.86      | 1.33                      | 1.37   | -2.85     |
|         |           |            |             | 1710            | 40.98                                  | 40.15  | 2.08      | 1.30                      | 1.35   | -3.82     |
|         |           |            |             | 1755            | 40.83                                  | 40.08  | 1.88      | 1.34                      | 1.37   | -2.61     |
| B       | 7/30/2017 | 750        | Body        | 750             | 54.76                                  | 55.55  | -1.42     | 0.97                      | 0.96   | 0.44      |
|         |           |            |             | 695             | 55.23                                  | 55.76  | -0.95     | 0.91                      | 0.96   | -4.84     |
|         |           |            |             | 790             | 54.50                                  | 55.39  | -1.61     | 1.01                      | 0.97   | 4.54      |
| B       | 8/5/2017  | 1750       | Body        | 1750            | 51.60                                  | 53.44  | -3.44     | 1.46                      | 1.49   | -2.03     |
|         |           |            |             | 1710            | 51.71                                  | 53.54  | -3.42     | 1.42                      | 1.46   | -3.05     |
|         |           |            |             | 1755            | 51.59                                  | 53.43  | -3.44     | 1.47                      | 1.49   | -1.63     |
| B       | 8/5/2017  | 1750       | Head        | 1750            | 39.46                                  | 40.08  | -1.56     | 1.33                      | 1.37   | -2.85     |
|         |           |            |             | 1710            | 39.61                                  | 40.15  | -1.34     | 1.29                      | 1.35   | -4.04     |
|         |           |            |             | 1755            | 39.43                                  | 40.08  | -1.61     | 1.34                      | 1.37   | -2.54     |
| B       | 8/7/2017  | 750        | Head        | 750             | 41.15                                  | 41.96  | -1.93     | 0.93                      | 0.89   | 3.80      |
|         |           |            |             | 695             | 41.93                                  | 42.24  | -0.74     | 0.87                      | 0.89   | -1.59     |
|         |           |            |             | 790             | 40.57                                  | 41.76  | -2.84     | 0.96                      | 0.90   | 7.55      |
| B       | 8/9/2017  | 2450       | Body        | 2450            | 50.62                                  | 52.70  | -3.95     | 2.01                      | 1.95   | 2.92      |
|         |           |            |             | 2400            | 50.72                                  | 52.77  | -3.89     | 1.94                      | 1.90   | 2.00      |
|         |           |            |             | 2480            | 50.51                                  | 52.66  | -4.09     | 2.04                      | 1.99   | 2.20      |
| B       | 8/10/2017 | 2450       | Head        | 2450            | 37.55                                  | 39.20  | -4.21     | 1.84                      | 1.80   | 2.39      |
|         |           |            |             | 2400            | 37.75                                  | 39.30  | -3.94     | 1.79                      | 1.75   | 2.13      |
|         |           |            |             | 2480            | 37.46                                  | 39.16  | -4.35     | 1.88                      | 1.83   | 2.38      |
| B       | 8/14/2017 | 2450       | Head        | 2450            | 39.08                                  | 39.20  | -0.31     | 1.85                      | 1.80   | 2.83      |
|         |           |            |             | 2400            | 39.32                                  | 39.30  | 0.06      | 1.79                      | 1.75   | 2.30      |
|         |           |            |             | 2480            | 38.98                                  | 39.16  | -0.47     | 1.89                      | 1.83   | 3.20      |
| B       | 8/14/2017 | 2450       | Body        | 2450            | 52.60                                  | 52.70  | -0.19     | 2.02                      | 1.95   | 3.69      |
|         |           |            |             | 2400            | 52.74                                  | 52.77  | -0.06     | 1.96                      | 1.90   | 3.21      |
|         |           |            |             | 2480            | 52.54                                  | 52.66  | -0.23     | 2.06                      | 1.99   | 3.46      |

**Dielectric Property Measurements Results:**

| SAR Lab | Date      | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity ( $\epsilon_r$ ) |        |           | Conductivity ( $\sigma$ ) |        |           |
|---------|-----------|------------|-------------|-----------------|----------------------------------------|--------|-----------|---------------------------|--------|-----------|
|         |           |            |             |                 | Measured                               | Target | Delta (%) | Measured                  | Target | Delta (%) |
| C       | 7/27/2017 | 1900       | Head        | 1900            | 38.16                                  | 40.00  | -4.60     | 1.40                      | 1.40   | 0.14      |
|         |           |            |             | 1850            | 38.35                                  | 40.00  | -4.13     | 1.36                      | 1.40   | -3.21     |
|         |           |            |             | 1920            | 38.10                                  | 40.00  | -4.75     | 1.42                      | 1.40   | 1.43      |
| C       | 7/27/2017 | 1900       | Body        | 1900            | 51.01                                  | 53.30  | -4.30     | 1.55                      | 1.52   | 2.04      |
|         |           |            |             | 1850            | 50.75                                  | 53.30  | -4.78     | 1.49                      | 1.52   | -1.84     |
|         |           |            |             | 1920            | 51.09                                  | 53.30  | -4.15     | 1.57                      | 1.52   | 3.29      |
| C       | 7/31/2017 | 1900       | Head        | 1900            | 39.27                                  | 40.00  | -1.82     | 1.45                      | 1.40   | 3.43      |
|         |           |            |             | 1850            | 39.47                                  | 40.00  | -1.33     | 1.40                      | 1.40   | 0.21      |
|         |           |            |             | 1920            | 39.18                                  | 40.00  | -2.05     | 1.47                      | 1.40   | 4.71      |
| C       | 7/31/2017 | 1900       | Body        | 1900            | 51.24                                  | 53.30  | -3.86     | 1.57                      | 1.52   | 3.42      |
|         |           |            |             | 1850            | 51.35                                  | 53.30  | -3.66     | 1.52                      | 1.52   | 0.00      |
|         |           |            |             | 1920            | 51.20                                  | 53.30  | -3.94     | 1.59                      | 1.52   | 4.74      |
| C       | 8/4/2017  | 1900       | Head        | 1900            | 40.29                                  | 40.00  | 0.72      | 1.43                      | 1.40   | 1.79      |
|         |           |            |             | 1850            | 40.53                                  | 40.00  | 1.33      | 1.38                      | 1.40   | -1.36     |
|         |           |            |             | 1920            | 40.23                                  | 40.00  | 0.57      | 1.44                      | 1.40   | 2.86      |
| C       | 8/4/2017  | 1900       | Body        | 1900            | 51.93                                  | 53.30  | -2.57     | 1.57                      | 1.52   | 3.36      |
|         |           |            |             | 1850            | 52.02                                  | 53.30  | -2.40     | 1.53                      | 1.52   | 0.33      |
|         |           |            |             | 1920            | 51.90                                  | 53.30  | -2.63     | 1.58                      | 1.52   | 4.21      |
| C       | 8/8/2017  | 1900       | Head        | 1900            | 38.47                                  | 40.00  | -3.83     | 1.43                      | 1.40   | 2.36      |
|         |           |            |             | 1850            | 38.67                                  | 40.00  | -3.33     | 1.39                      | 1.40   | -0.57     |
|         |           |            |             | 1920            | 38.43                                  | 40.00  | -3.93     | 1.45                      | 1.40   | 3.57      |
| C       | 8/8/2017  | 1900       | Body        | 1900            | 51.52                                  | 53.30  | -3.34     | 1.58                      | 1.52   | 3.68      |
|         |           |            |             | 1850            | 51.64                                  | 53.30  | -3.11     | 1.54                      | 1.52   | 0.99      |
|         |           |            |             | 1920            | 51.49                                  | 53.30  | -3.90     | 1.59                      | 1.52   | 4.87      |
| C       | 8/14/2017 | 1900       | Head        | 1900            | 38.66                                  | 40.00  | -3.35     | 1.40                      | 1.40   | 0.07      |
|         |           |            |             | 1850            | 38.75                                  | 40.00  | -3.13     | 1.36                      | 1.40   | -3.00     |
|         |           |            |             | 1920            | 38.60                                  | 40.00  | -3.50     | 1.42                      | 1.40   | 1.43      |
| C       | 8/14/2017 | 1900       | Body        | 1900            | 52.09                                  | 53.30  | -2.27     | 1.57                      | 1.52   | 3.49      |
|         |           |            |             | 1850            | 52.09                                  | 53.30  | -2.27     | 1.53                      | 1.52   | 0.66      |
|         |           |            |             | 1920            | 52.07                                  | 53.30  | -2.31     | 1.59                      | 1.52   | 4.74      |

**Dielectric Property Measurements Results:**

| SAR Lab | Date      | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity ( $\epsilon_r$ ) |        |           | Conductivity ( $\sigma$ ) |        |           |
|---------|-----------|------------|-------------|-----------------|----------------------------------------|--------|-----------|---------------------------|--------|-----------|
|         |           |            |             |                 | Measured                               | Target | Delta (%) | Measured                  | Target | Delta (%) |
| D       | 7/24/2017 | 835        | Head        | 835             | 40.79                                  | 41.50  | -1.71     | 0.92                      | 0.90   | 2.19      |
|         |           |            |             | 805             | 41.20                                  | 41.68  | -1.15     | 0.89                      | 0.90   | -0.74     |
|         |           |            |             | 905             | 39.99                                  | 41.50  | -3.64     | 0.98                      | 0.97   | 1.04      |
| D       | 7/27/2017 | 2600       | Head        | 2600            | 37.59                                  | 39.01  | -3.64     | 2.00                      | 1.96   | 1.78      |
|         |           |            |             | 2495            | 38.01                                  | 39.14  | -2.90     | 1.88                      | 1.85   | 1.91      |
|         |           |            |             | 2690            | 37.25                                  | 38.90  | -4.23     | 2.10                      | 2.06   | 1.82      |
| D       | 7/27/2017 | 2600       | Body        | 2600            | 51.47                                  | 52.51  | -1.98     | 2.24                      | 2.16   | 3.57      |
|         |           |            |             | 2495            | 51.84                                  | 52.64  | -1.53     | 2.11                      | 2.01   | 4.66      |
|         |           |            |             | 2690            | 51.16                                  | 52.40  | -2.36     | 2.35                      | 2.29   | 2.65      |
| D       | 7/27/2017 | 835        | Head        | 835             | 41.26                                  | 41.50  | -0.58     | 0.91                      | 0.90   | 0.76      |
|         |           |            |             | 805             | 41.65                                  | 41.68  | -0.07     | 0.88                      | 0.90   | -1.82     |
|         |           |            |             | 905             | 40.58                                  | 41.50  | -2.22     | 0.97                      | 0.97   | 0.21      |
| D       | 7/30/2017 | 2600       | Body        | 2600            | 51.11                                  | 52.51  | -2.67     | 2.16                      | 2.16   | 0.15      |
|         |           |            |             | 2495            | 51.31                                  | 52.64  | -2.53     | 2.04                      | 2.01   | 1.33      |
|         |           |            |             | 2690            | 50.84                                  | 52.40  | -2.97     | 2.27                      | 2.29   | -0.71     |
| D       | 7/31/2017 | 835        | Head        | 835             | 41.44                                  | 41.50  | -0.14     | 0.89                      | 0.90   | -1.26     |
|         |           |            |             | 805             | 41.75                                  | 41.68  | 0.17      | 0.87                      | 0.90   | -3.56     |
|         |           |            |             | 905             | 40.64                                  | 41.50  | -2.07     | 0.95                      | 0.97   | -2.42     |
| D       | 8/1/2017  | 2600       | Head        | 2600            | 37.73                                  | 39.01  | -3.28     | 2.02                      | 1.96   | 2.90      |
|         |           |            |             | 2495            | 38.08                                  | 39.14  | -2.72     | 1.90                      | 1.85   | 2.67      |
|         |           |            |             | 2690            | 37.40                                  | 38.90  | -3.85     | 2.13                      | 2.06   | 3.28      |
| D       | 8/3/2017  | 2600       | Body        | 2600            | 51.27                                  | 52.51  | -2.36     | 2.14                      | 2.16   | -0.96     |
|         |           |            |             | 2495            | 51.54                                  | 52.64  | -2.10     | 2.01                      | 2.01   | 0.04      |
|         |           |            |             | 2690            | 51.04                                  | 52.40  | -2.59     | 2.24                      | 2.29   | -1.89     |
| D       | 8/4/2017  | 2600       | Head        | 2600            | 38.04                                  | 39.01  | -2.49     | 2.04                      | 1.96   | 3.87      |
|         |           |            |             | 2495            | 38.44                                  | 39.14  | -1.80     | 1.92                      | 1.85   | 3.91      |
|         |           |            |             | 2690            | 37.65                                  | 38.90  | -3.21     | 2.14                      | 2.06   | 3.81      |
| D       | 8/5/2017  | 835        | Head        | 835             | 42.05                                  | 41.50  | 1.33      | 0.89                      | 0.90   | -0.88     |
|         |           |            |             | 805             | 42.35                                  | 41.68  | 1.61      | 0.86                      | 0.90   | -3.96     |
|         |           |            |             | 905             | 40.95                                  | 41.50  | -1.33     | 0.94                      | 0.97   | -3.19     |
| D       | 8/7/2017  | 2600       | Body        | 2600            | 51.72                                  | 52.51  | -1.51     | 2.19                      | 2.16   | 1.40      |
|         |           |            |             | 2495            | 52.03                                  | 52.64  | -1.16     | 2.07                      | 2.01   | 2.67      |
|         |           |            |             | 2690            | 51.46                                  | 52.40  | -1.79     | 2.29                      | 2.29   | 0.29      |
| D       | 8/9/2017  | 2600       | Head        | 2600            | 38.48                                  | 39.01  | -1.36     | 2.01                      | 1.96   | 2.54      |
|         |           |            |             | 2495            | 38.83                                  | 39.14  | -0.80     | 1.88                      | 1.85   | 1.86      |
|         |           |            |             | 2690            | 38.15                                  | 38.90  | -1.92     | 2.11                      | 2.06   | 2.60      |
| D       | 8/9/2017  | 835        | Head        | 835             | 40.98                                  | 41.50  | -1.25     | 0.90                      | 0.90   | -0.26     |
|         |           |            |             | 805             | 41.35                                  | 41.68  | -0.79     | 0.87                      | 0.90   | -3.02     |
|         |           |            |             | 905             | 40.22                                  | 41.50  | -3.08     | 0.97                      | 0.97   | -0.76     |
| D       | 8/9/2017  | 835        | Body        | 835             | 53.67                                  | 55.20  | -2.77     | 1.01                      | 0.97   | 3.71      |
|         |           |            |             | 805             | 53.99                                  | 55.33  | -2.43     | 0.98                      | 0.97   | 0.83      |
|         |           |            |             | 905             | 53.12                                  | 55.00  | -3.42     | 1.08                      | 1.05   | 2.61      |
| D       | 8/14/2017 | 1900       | Head        | 1900            | 38.42                                  | 40.00  | -3.95     | 1.43                      | 1.40   | 1.86      |
|         |           |            |             | 1850            | 38.57                                  | 40.00  | -3.58     | 1.38                      | 1.40   | -1.50     |
|         |           |            |             | 1920            | 38.40                                  | 40.00  | -4.00     | 1.45                      | 1.40   | 3.43      |
| D       | 8/15/2017 | 2600       | Head        | 2600            | 39.51                                  | 39.01  | 1.28      | 2.03                      | 1.96   | 3.30      |
|         |           |            |             | 2495            | 39.90                                  | 39.14  | 1.93      | 1.91                      | 1.85   | 3.16      |
|         |           |            |             | 2690            | 39.29                                  | 38.90  | 1.01      | 2.13                      | 2.06   | 3.38      |
| D       | 8/16/2017 | 2450       | Head        | 2450            | 40.49                                  | 39.20  | 3.29      | 1.89                      | 1.80   | 4.72      |
|         |           |            |             | 2400            | 40.44                                  | 39.30  | 2.91      | 1.82                      | 1.75   | 4.13      |
|         |           |            |             | 2480            | 40.37                                  | 39.16  | 3.08      | 1.91                      | 1.83   | 4.23      |

**Dielectric Property Measurements Results:**

| SAR Lab | Date      | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity ( $\epsilon_r$ ) |        |           | Conductivity ( $\sigma$ ) |        |           |
|---------|-----------|------------|-------------|-----------------|----------------------------------------|--------|-----------|---------------------------|--------|-----------|
|         |           |            |             |                 | Measured                               | Target | Delta (%) | Measured                  | Target | Delta (%) |
| E       | 7/28/2017 | 5600       | Head        | 5600            | 35.27                                  | 35.53  | -0.74     | 5.28                      | 5.06   | 4.42      |
|         |           |            |             | 5500            | 35.45                                  | 35.65  | -0.56     | 5.17                      | 4.96   | 4.18      |
|         |           |            |             | 5725            | 35.09                                  | 35.39  | -0.85     | 5.43                      | 5.19   | 4.66      |
| E       | 7/28/2017 | 5600       | Body        | 5600            | 47.13                                  | 48.48  | -2.78     | 5.90                      | 5.76   | 2.43      |
|         |           |            |             | 5500            | 47.29                                  | 48.61  | -2.72     | 5.77                      | 5.64   | 2.28      |
|         |           |            |             | 5725            | 47.03                                  | 48.31  | -2.65     | 6.08                      | 5.91   | 2.92      |
| E       | 7/30/2017 | 5600       | Head        | 5600            | 37.24                                  | 35.53  | 4.80      | 5.02                      | 5.06   | -0.80     |
|         |           |            |             | 5500            | 37.36                                  | 35.65  | 4.80      | 4.91                      | 4.96   | -1.01     |
|         |           |            |             | 5725            | 37.10                                  | 35.39  | 4.83      | 5.16                      | 5.19   | -0.52     |
| E       | 7/30/2017 | 5600       | Body        | 5600            | 47.14                                  | 48.48  | -2.76     | 5.99                      | 5.76   | 3.91      |
|         |           |            |             | 5500            | 47.29                                  | 48.61  | -2.72     | 5.84                      | 5.64   | 3.45      |
|         |           |            |             | 5725            | 46.97                                  | 48.31  | -2.77     | 6.14                      | 5.91   | 3.98      |
| E       | 8/3/2017  | 5600       | Body        | 5600            | 46.73                                  | 48.48  | -3.61     | 5.97                      | 5.76   | 3.56      |
|         |           |            |             | 5500            | 46.88                                  | 48.61  | -3.57     | 5.82                      | 5.64   | 3.06      |
|         |           |            |             | 5725            | 46.55                                  | 48.31  | -3.64     | 6.14                      | 5.91   | 3.98      |
| E       | 8/3/2017  | 5600       | Head        | 5600            | 37.06                                  | 35.53  | 4.29      | 4.94                      | 5.06   | -2.34     |
|         |           |            |             | 5500            | 37.21                                  | 35.65  | 4.38      | 4.84                      | 4.96   | -2.48     |
|         |           |            |             | 5725            | 36.87                                  | 35.39  | 4.18      | 5.08                      | 5.19   | -2.01     |
| E       | 8/7/2017  | 5600       | Body        | 5600            | 46.71                                  | 48.48  | -3.65     | 6.01                      | 5.76   | 4.30      |
|         |           |            |             | 5500            | 46.91                                  | 48.61  | -3.50     | 5.85                      | 5.64   | 3.62      |
|         |           |            |             | 5725            | 46.54                                  | 48.31  | -3.66     | 6.17                      | 5.91   | 4.44      |
| E       | 8/7/2017  | 5600       | Head        | 5600            | 36.26                                  | 35.53  | 2.04      | 4.82                      | 5.06   | -4.69     |
|         |           |            |             | 5500            | 36.88                                  | 35.65  | 3.46      | 4.79                      | 4.96   | -3.33     |
|         |           |            |             | 5725            | 36.16                                  | 35.39  | 2.17      | 5.07                      | 5.19   | -2.32     |
| E       | 8/11/2017 | 5600       | Head        | 5600            | 36.93                                  | 35.53  | 3.93      | 4.88                      | 5.06   | -3.64     |
|         |           |            |             | 5500            | 37.11                                  | 35.65  | 4.10      | 4.77                      | 4.96   | -3.89     |
|         |           |            |             | 5725            | 36.68                                  | 35.39  | 3.64      | 5.02                      | 5.19   | -3.16     |
| E       | 8/11/2017 | 5600       | Body        | 5600            | 47.19                                  | 48.48  | -2.66     | 5.88                      | 5.76   | 2.13      |
|         |           |            |             | 5500            | 47.44                                  | 48.61  | -2.41     | 5.73                      | 5.64   | 1.44      |
|         |           |            |             | 5725            | 46.85                                  | 48.31  | -3.02     | 6.05                      | 5.91   | 2.48      |
| E       | 8/15/2017 | 5600       | Head        | 5600            | 33.99                                  | 35.53  | -4.34     | 4.86                      | 5.06   | -3.88     |
|         |           |            |             | 5500            | 34.15                                  | 35.65  | -4.20     | 4.75                      | 4.96   | -4.11     |
|         |           |            |             | 5725            | 33.81                                  | 35.39  | -4.47     | 5.01                      | 5.19   | -3.53     |
| E       | 8/15/2017 | 5600       | Body        | 5600            | 50.31                                  | 48.48  | 3.78      | 5.59                      | 5.76   | -2.97     |
|         |           |            |             | 5500            | 50.48                                  | 48.61  | 3.84      | 5.42                      | 5.64   | -3.91     |
|         |           |            |             | 5725            | 50.09                                  | 48.31  | 3.69      | 5.76                      | 5.91   | -2.42     |

**Dielectric Property Measurements Results:**

| SAR Lab | Date      | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity ( $\epsilon_r$ ) |        |           | Conductivity ( $\sigma$ ) |        |           |
|---------|-----------|------------|-------------|-----------------|----------------------------------------|--------|-----------|---------------------------|--------|-----------|
|         |           |            |             |                 | Measured                               | Target | Delta (%) | Measured                  | Target | Delta (%) |
| F       | 7/28/2017 | 2450       | Head        | 2450            | 39.23                                  | 39.20  | 0.08      | 1.88                      | 1.80   | 4.44      |
|         |           |            |             | 2400            | 39.42                                  | 39.30  | 0.31      | 1.82                      | 1.75   | 3.79      |
|         |           |            |             | 2480            | 39.13                                  | 39.16  | -0.08     | 1.92                      | 1.83   | 4.78      |
| F       | 7/28/2017 | 2450       | Body        | 2450            | 52.01                                  | 52.70  | -1.31     | 2.03                      | 1.95   | 3.85      |
|         |           |            |             | 2400            | 52.15                                  | 52.77  | -1.18     | 1.96                      | 1.90   | 3.00      |
|         |           |            |             | 2480            | 51.88                                  | 52.66  | -1.49     | 2.07                      | 1.99   | 3.71      |
| F       | 7/30/2017 | 2450       | Head        | 2450            | 38.24                                  | 39.20  | -2.45     | 1.84                      | 1.80   | 2.06      |
|         |           |            |             | 2400            | 38.43                                  | 39.30  | -2.21     | 1.78                      | 1.75   | 1.56      |
|         |           |            |             | 2480            | 38.11                                  | 39.16  | -2.69     | 1.87                      | 1.83   | 2.16      |
| F       | 7/30/2017 | 2450       | Body        | 2450            | 53.22                                  | 52.70  | 0.99      | 2.00                      | 1.95   | 2.72      |
|         |           |            |             | 2400            | 53.43                                  | 52.77  | 1.25      | 1.93                      | 1.90   | 1.84      |
|         |           |            |             | 2480            | 53.10                                  | 52.66  | 0.83      | 2.05                      | 1.99   | 2.70      |
| F       | 8/3/2017  | 2450       | Head        | 2450            | 37.38                                  | 39.20  | -4.64     | 1.88                      | 1.80   | 4.39      |
|         |           |            |             | 2400            | 37.53                                  | 39.30  | -4.50     | 1.81                      | 1.75   | 3.50      |
|         |           |            |             | 2480            | 37.25                                  | 39.16  | -4.88     | 1.91                      | 1.83   | 4.07      |
| F       | 8/3/2017  | 2450       | Body        | 2450            | 50.64                                  | 52.70  | -3.91     | 1.99                      | 1.95   | 2.00      |
|         |           |            |             | 2400            | 50.77                                  | 52.77  | -3.79     | 1.91                      | 1.90   | 0.84      |
|         |           |            |             | 2480            | 50.51                                  | 52.66  | -4.09     | 2.02                      | 1.99   | 1.55      |
| F       | 8/7/2017  | 2450       | Body        | 2450            | 50.66                                  | 52.70  | -3.87     | 1.99                      | 1.95   | 2.05      |
|         |           |            |             | 2400            | 50.80                                  | 52.77  | -3.74     | 1.93                      | 1.90   | 1.47      |
|         |           |            |             | 2480            | 50.52                                  | 52.66  | -4.07     | 2.03                      | 1.99   | 2.00      |
| F       | 8/7/2017  | 2450       | Head        | 2450            | 37.87                                  | 39.20  | -3.39     | 1.88                      | 1.80   | 4.61      |
|         |           |            |             | 2400            | 38.03                                  | 39.30  | -3.22     | 1.83                      | 1.75   | 4.36      |
|         |           |            |             | 2480            | 37.72                                  | 39.16  | -3.68     | 1.92                      | 1.83   | 4.56      |
| F       | 8/11/2017 | 2450       | Body        | 2450            | 51.65                                  | 52.70  | -1.99     | 1.90                      | 1.95   | -2.82     |
|         |           |            |             | 2400            | 51.86                                  | 52.77  | -1.73     | 1.84                      | 1.90   | -2.90     |
|         |           |            |             | 2480            | 51.50                                  | 52.66  | -2.21     | 1.93                      | 1.99   | -3.02     |
| F       | 8/11/2017 | 2450       | Head        | 2450            | 38.32                                  | 39.20  | -2.24     | 1.89                      | 1.80   | 4.89      |
|         |           |            |             | 2400            | 38.53                                  | 39.30  | -1.95     | 1.83                      | 1.75   | 4.30      |
|         |           |            |             | 2480            | 38.18                                  | 39.16  | -2.51     | 1.92                      | 1.83   | 4.83      |
| F       | 8/14/2017 | 2450       | Body        | 2450            | 52.40                                  | 52.70  | -0.57     | 1.97                      | 1.95   | 1.08      |
|         |           |            |             | 2400            | 52.65                                  | 52.77  | -0.23     | 1.90                      | 1.90   | 0.31      |
|         |           |            |             | 2480            | 52.34                                  | 52.66  | -0.61     | 2.02                      | 1.99   | 1.30      |
| F       | 8/14/2017 | 2450       | Head        | 2450            | 38.99                                  | 39.20  | -0.54     | 1.88                      | 1.80   | 4.28      |
|         |           |            |             | 2400            | 39.21                                  | 39.30  | -0.22     | 1.82                      | 1.75   | 3.67      |
|         |           |            |             | 2480            | 38.88                                  | 39.16  | -0.72     | 1.92                      | 1.83   | 4.51      |

**Dielectric Property Measurements Results:**

| SAR Lab | Date      | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity ( $\epsilon_r$ ) |        |           | Conductivity ( $\sigma$ ) |        |           |
|---------|-----------|------------|-------------|-----------------|----------------------------------------|--------|-----------|---------------------------|--------|-----------|
|         |           |            |             |                 | Measured                               | Target | Delta (%) | Measured                  | Target | Delta (%) |
| G       | 7/28/2017 | 5800       | Head        | 5800            | 34.65                                  | 35.30  | -1.84     | 5.46                      | 5.27   | 3.66      |
|         |           |            |             | 5700            | 34.78                                  | 35.42  | -1.81     | 5.36                      | 5.16   | 3.79      |
|         |           |            |             | 5850            | 34.65                                  | 35.30  | -1.84     | 5.53                      | 5.27   | 4.88      |
| G       | 7/28/2017 | 5800       | Body        | 5800            | 46.87                                  | 48.20  | -2.76     | 6.17                      | 6.00   | 2.78      |
|         |           |            |             | 5700            | 46.98                                  | 48.34  | -2.82     | 6.04                      | 5.88   | 2.83      |
|         |           |            |             | 5850            | 46.81                                  | 48.20  | -2.88     | 6.25                      | 6.00   | 4.10      |
| G       | 7/30/2017 | 5800       | Head        | 5800            | 36.10                                  | 35.30  | 2.27      | 5.17                      | 5.27   | -1.84     |
|         |           |            |             | 5700            | 36.22                                  | 35.42  | 2.26      | 5.06                      | 5.16   | -2.01     |
|         |           |            |             | 5850            | 36.08                                  | 35.30  | 2.21      | 5.22                      | 5.27   | -0.99     |
| G       | 7/30/2017 | 5800       | Body        | 5800            | 46.91                                  | 48.20  | -2.68     | 5.98                      | 6.00   | -0.35     |
|         |           |            |             | 5700            | 47.09                                  | 48.34  | -2.59     | 5.86                      | 5.88   | -0.33     |
|         |           |            |             | 5850            | 46.88                                  | 48.20  | -2.74     | 6.05                      | 6.00   | 0.78      |
| G       | 8/3/2017  | 5800       | Body        | 5800            | 46.86                                  | 48.20  | -2.78     | 6.23                      | 6.00   | 3.85      |
|         |           |            |             | 5700            | 46.97                                  | 48.34  | -2.84     | 6.09                      | 5.88   | 3.68      |
|         |           |            |             | 5850            | 46.77                                  | 48.20  | -2.97     | 6.30                      | 6.00   | 4.95      |
| G       | 8/3/2017  | 5800       | Head        | 5800            | 36.63                                  | 35.30  | 3.77      | 5.08                      | 5.27   | -3.62     |
|         |           |            |             | 5700            | 36.72                                  | 35.42  | 3.67      | 4.97                      | 5.16   | -3.67     |
|         |           |            |             | 5850            | 36.57                                  | 35.30  | 3.60      | 5.15                      | 5.27   | -2.35     |
| G       | 8/7/2017  | 5800       | Head        | 5800            | 36.46                                  | 35.30  | 3.29      | 5.04                      | 5.27   | -4.44     |
|         |           |            |             | 5700            | 36.56                                  | 35.42  | 3.22      | 4.95                      | 5.16   | -4.04     |
|         |           |            |             | 5850            | 36.46                                  | 35.30  | 3.29      | 5.09                      | 5.27   | -3.36     |
| G       | 8/7/2017  | 5800       | Body        | 5800            | 45.87                                  | 48.20  | -4.83     | 6.16                      | 6.00   | 2.62      |
|         |           |            |             | 5700            | 46.00                                  | 48.34  | -4.85     | 6.02                      | 5.88   | 2.47      |
|         |           |            |             | 5850            | 45.90                                  | 48.20  | -4.77     | 6.22                      | 6.00   | 3.72      |
| G       | 8/11/2017 | 5800       | Body        | 5800            | 45.91                                  | 48.20  | -4.75     | 6.16                      | 6.00   | 2.62      |
|         |           |            |             | 5700            | 46.12                                  | 48.34  | -4.60     | 6.04                      | 5.88   | 2.76      |
|         |           |            |             | 5850            | 45.86                                  | 48.20  | -4.85     | 6.24                      | 6.00   | 4.02      |
| G       | 8/11/2017 | 5800       | Head        | 5800            | 36.92                                  | 35.30  | 4.59      | 5.31                      | 5.27   | 0.76      |
|         |           |            |             | 5700            | 37.03                                  | 35.42  | 4.55      | 5.24                      | 5.16   | 1.58      |
|         |           |            |             | 5850            | 36.87                                  | 35.30  | 4.45      | 5.35                      | 5.27   | 1.44      |
| G       | 8/15/2017 | 5800       | Body        | 5800            | 49.96                                  | 48.20  | 3.65      | 5.97                      | 6.00   | -0.48     |
|         |           |            |             | 5700            | 50.17                                  | 48.34  | 3.78      | 5.82                      | 5.88   | -0.91     |
|         |           |            |             | 5850            | 50.00                                  | 48.20  | 3.73      | 6.06                      | 6.00   | 0.95      |
| G       | 8/15/2017 | 5800       | Head        | 5800            | 34.67                                  | 35.30  | -1.78     | 5.14                      | 5.27   | -2.43     |
|         |           |            |             | 5700            | 34.80                                  | 35.42  | -1.75     | 5.03                      | 5.16   | -2.55     |
|         |           |            |             | 5850            | 34.67                                  | 35.30  | -1.78     | 5.21                      | 5.27   | -1.16     |
| G       | 8/15/2017 | 2450       | Body        | 2450            | 50.35                                  | 52.70  | -4.46     | 1.98                      | 1.95   | 1.49      |
|         |           |            |             | 2400            | 50.24                                  | 52.77  | -4.79     | 1.91                      | 1.90   | 0.68      |
|         |           |            |             | 2480            | 50.25                                  | 52.66  | -4.58     | 2.02                      | 1.99   | 1.61      |
| G       | 8/16/2017 | 2450       | Head        | 2450            | 38.16                                  | 39.20  | -2.65     | 1.88                      | 1.80   | 4.39      |
|         |           |            |             | 2400            | 38.35                                  | 39.30  | -2.42     | 1.82                      | 1.75   | 4.00      |
|         |           |            |             | 2480            | 38.00                                  | 39.16  | -2.96     | 1.91                      | 1.83   | 4.48      |

**Dielectric Property Measurements Results:**

| SAR Lab | Date      | Band (MHz) | Tissue Type | Frequency (MHz) | Relative Permittivity ( $\epsilon_r$ ) |        |           | Conductivity ( $\sigma$ ) |        |           |
|---------|-----------|------------|-------------|-----------------|----------------------------------------|--------|-----------|---------------------------|--------|-----------|
|         |           |            |             |                 | Measured                               | Target | Delta (%) | Measured                  | Target | Delta (%) |
| H       | 7/28/2017 | 5200       | Head        | 5200            | 35.30                                  | 35.99  | -1.92     | 4.71                      | 4.65   | 1.31      |
|         |           |            |             | 5150            | 35.37                                  | 36.05  | -1.88     | 4.67                      | 4.60   | 1.59      |
|         |           |            |             | 5350            | 35.16                                  | 35.82  | -1.84     | 4.87                      | 4.80   | 1.28      |
| H       | 7/29/2017 | 5200       | Body        | 5200            | 47.11                                  | 49.02  | -3.90     | 5.49                      | 5.29   | 3.65      |
|         |           |            |             | 5150            | 47.22                                  | 49.09  | -3.80     | 5.42                      | 5.24   | 3.49      |
|         |           |            |             | 5350            | 46.85                                  | 48.82  | -4.03     | 5.70                      | 5.47   | 4.23      |
| H       | 7/30/2017 | 5200       | Head        | 5200            | 37.23                                  | 35.99  | 3.44      | 4.53                      | 4.65   | -2.56     |
|         |           |            |             | 5150            | 37.28                                  | 36.05  | 3.42      | 4.47                      | 4.60   | -2.80     |
|         |           |            |             | 5350            | 37.06                                  | 35.82  | 3.46      | 4.67                      | 4.80   | -2.80     |
| H       | 7/30/2017 | 5200       | Body        | 5200            | 47.71                                  | 49.02  | -2.67     | 5.25                      | 5.29   | -0.88     |
|         |           |            |             | 5150            | 47.77                                  | 49.09  | -2.68     | 5.18                      | 5.24   | -1.13     |
|         |           |            |             | 5350            | 47.53                                  | 48.82  | -2.64     | 5.42                      | 5.47   | -1.00     |
| H       | 8/3/2017  | 5200       | Head        | 5200            | 36.79                                  | 35.99  | 2.22      | 4.54                      | 4.65   | -2.34     |
|         |           |            |             | 5150            | 36.86                                  | 36.05  | 2.25      | 4.47                      | 4.60   | -2.80     |
|         |           |            |             | 5350            | 36.62                                  | 35.82  | 2.24      | 4.69                      | 4.80   | -2.38     |
| H       | 8/3/2017  | 5200       | Body        | 5200            | 47.59                                  | 49.02  | -2.92     | 5.36                      | 5.29   | 1.18      |
|         |           |            |             | 5150            | 47.68                                  | 49.09  | -2.87     | 5.26                      | 5.24   | 0.43      |
|         |           |            |             | 5350            | 47.41                                  | 48.82  | -2.88     | 5.55                      | 5.47   | 1.40      |
| H       | 8/7/2017  | 5200       | Head        | 5200            | 36.42                                  | 35.99  | 1.19      | 4.60                      | 4.65   | -1.14     |
|         |           |            |             | 5150            | 36.44                                  | 36.05  | 1.09      | 4.55                      | 4.60   | -1.00     |
|         |           |            |             | 5350            | 36.31                                  | 35.82  | 1.37      | 4.69                      | 4.80   | -2.42     |
| H       | 8/7/2017  | 5200       | Body        | 5200            | 47.67                                  | 49.02  | -2.75     | 5.43                      | 5.29   | 2.63      |
|         |           |            |             | 5150            | 47.64                                  | 49.09  | -2.95     | 5.35                      | 5.24   | 2.07      |
|         |           |            |             | 5350            | 47.63                                  | 48.82  | -2.43     | 5.65                      | 5.47   | 3.28      |
| H       | 8/10/2017 | 5600       | Head        | 5600            | 36.15                                  | 35.53  | 1.73      | 4.88                      | 5.06   | -3.64     |
|         |           |            |             | 5500            | 36.20                                  | 35.65  | 1.55      | 4.77                      | 4.96   | -3.79     |
|         |           |            |             | 5725            | 36.02                                  | 35.39  | 1.78      | 5.01                      | 5.19   | -3.43     |
| H       | 8/11/2017 | 5600       | Body        | 5600            | 46.43                                  | 48.48  | -4.22     | 6.00                      | 5.76   | 4.13      |
|         |           |            |             | 5500            | 46.68                                  | 48.61  | -3.98     | 5.85                      | 5.64   | 3.59      |
|         |           |            |             | 5725            | 46.19                                  | 48.31  | -4.39     | 6.20                      | 5.91   | 4.98      |
| H       | 8/14/2017 | 5200       | Body        | 5200            | 51.14                                  | 49.02  | 4.33      | 5.18                      | 5.29   | -2.24     |
|         |           |            |             | 5150            | 51.18                                  | 49.09  | 4.26      | 5.12                      | 5.24   | -2.24     |
|         |           |            |             | 5350            | 50.87                                  | 48.82  | 4.21      | 5.33                      | 5.47   | -2.50     |
| H       | 8/14/2017 | 5200       | Head        | 5200            | 34.56                                  | 35.99  | -3.97     | 4.50                      | 4.65   | -3.33     |
|         |           |            |             | 5150            | 34.61                                  | 36.05  | -3.99     | 4.44                      | 4.60   | -3.45     |
|         |           |            |             | 5350            | 34.35                                  | 35.82  | -4.10     | 4.61                      | 4.80   | -4.05     |

## 8.2. System Check

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device. The same SAR probe(s) and tissue-equivalent media combinations used with each specific SAR system for system verification must be used for device testing. When multiple probe calibration points are required to cover substantially large transmission bands, independent system verifications are required for each probe calibration point. A system verification must be performed before each series of SAR measurements using the same probe calibration point and tissue-equivalent medium. Additional system verification should be considered according to the conditions of the tissue-equivalent medium and measured tissue dielectric parameters, typically every three to four days when the liquid parameters are re-measured or sooner when marginal liquid parameters are used at the beginning of a series of measurements.

### System Performance Check Measurement Conditions:

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness:  $2.0 \pm 0.2$  mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- 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.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.  
For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 (below 3 GHz) and/or 8x8x7 (above 3 GHz) fine cube was chosen for the cube.
- Distance between probe sensors and phantom surface was set to 3 mm.  
For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was 100 mW.
- The results are normalized to 1 W input power.

## System Check Results

The 1-g and 10-g SAR measured with a reference dipole, using the required tissue-equivalent medium at the test frequency, must be within 10% of the manufacturer calibrated dipole SAR target.

| SAR Lab | Date      | Tissue Type | Dipole Type<br>_Serial # | Dipole<br>Cal. Due Date | Measured Results for 1g SAR |                     |                        |                | Measured Results for 10g SAR |                     |                        |                | Plot No. |
|---------|-----------|-------------|--------------------------|-------------------------|-----------------------------|---------------------|------------------------|----------------|------------------------------|---------------------|------------------------|----------------|----------|
|         |           |             |                          |                         | Zoom Scan<br>to 100 mW      | Normalize<br>to 1 W | Target<br>(Ref. Value) | Delta<br>±10 % | Zoom Scan<br>to 100 mW       | Normalize<br>to 1 W | Target<br>(Ref. Value) | Delta<br>±10 % |          |
| A       | 7/24/2017 | Body        | D835V2 SN:4d117          | 5/22/2018               | 1.010                       | 10.10               | 10.39                  | -2.79          | 0.665                        | 6.65                | 6.76                   | -1.63          | 1,2      |
| A       | 7/27/2017 | Head        | D2300V2 SN:1058          | 8/18/2017               | 5.210                       | 52.10               | 50.50                  | 3.17           | 2.440                        | 24.40               | 24.20                  | 0.83           |          |
| A       | 7/27/2017 | Body        | D2300V2 SN:1058          | 8/18/2017               | 5.040                       | 50.40               | 48.50                  | 3.92           | 2.390                        | 23.90               | 23.50                  | 1.70           |          |
| A       | 7/28/2017 | Body        | D835V2 SN:4d002          | 11/8/2017               | 1.030                       | 10.30               | 9.55                   | 7.85           | 0.676                        | 6.76                | 6.33                   | 6.79           |          |
| A       | 7/30/2017 | Body        | D2300V2 SN:1058          | 8/18/2017               | 5.060                       | 50.60               | 48.50                  | 4.33           | 2.370                        | 23.70               | 23.50                  | 0.85           | 3,4      |
| A       | 7/30/2017 | Head        | D2300V2 SN:1058          | 8/18/2017               | 5.070                       | 50.70               | 50.50                  | 0.40           | 2.380                        | 23.80               | 24.20                  | -1.65          |          |
| A       | 7/31/2017 | Body        | D835V2 SN:4d002          | 11/8/2017               | 1.000                       | 10.00               | 9.55                   | 4.71           | 0.659                        | 6.59                | 6.33                   | 4.11           |          |
| A       | 8/3/2017  | Head        | D2300V2 SN:1058          | 8/18/2017               | 5.000                       | 50.00               | 50.50                  | -0.99          | 2.350                        | 23.50               | 24.20                  | -2.89          |          |
| A       | 8/3/2017  | Body        | D2300V2 SN:1058          | 8/18/2017               | 4.910                       | 49.10               | 48.50                  | 1.24           | 2.310                        | 23.10               | 23.50                  | -1.70          |          |
| A       | 8/3/2017  | Body        | D2600V2 SN:1006          | 9/13/2017               | 5.350                       | 53.50               | 54.20                  | -1.29          | 2.340                        | 23.40               | 24.30                  | -3.70          |          |
| A       | 8/4/2017  | Body        | D835V2 SN:4d002          | 11/8/2017               | 1.030                       | 10.30               | 9.55                   | 7.85           | 0.680                        | 6.80                | 6.33                   | 7.42           | 5,6      |
| A       | 8/7/2017  | Head        | D835V2 SN:4d002          | 11/8/2017               | 0.991                       | 9.91                | 9.46                   | 4.76           | 0.651                        | 6.51                | 6.15                   | 5.85           |          |
| A       | 8/9/2017  | Body        | D835V2 SN:4d002          | 11/8/2017               | 1.020                       | 10.20               | 9.55                   | 6.81           | 0.676                        | 6.76                | 6.33                   | 6.79           |          |
| A       | 8/10/2017 | Body        | D2450V2 SN:706           | 5/9/2018                | 4.880                       | 48.80               | 50.60                  | -3.56          | 2.240                        | 22.40               | 23.80                  | -5.88          | 7,8      |
| A       | 8/10/2017 | Body        | D1900V2 SN:5d043         | 11/9/2017               | 4.010                       | 40.10               | 39.10                  | 2.56           | 2.070                        | 20.70               | 20.70                  | 0.00           | 9,10     |
| A       | 8/14/2017 | Head        | D2600V2 SN:1006          | 9/13/2017               | 5.880                       | 58.80               | 55.50                  | 5.95           | 2.560                        | 25.60               | 25.00                  | 2.40           | 11,12    |
| A       | 8/14/2017 | Body        | D2600V2 SN:1006          | 9/13/2017               | 5.730                       | 57.30               | 54.20                  | 5.72           | 2.500                        | 25.00               | 24.30                  | 2.88           |          |
| A       | 8/16/2017 | Head        | D2450V2 SN:748           | 2/8/2018                | 5.520                       | 55.20               | 52.10                  | 5.95           | 2.500                        | 25.00               | 24.20                  | 3.31           | 13,14    |
| B       | 7/24/2017 | Head        | D750V3 SN:1019           | 3/13/2018               | 0.828                       | 8.28                | 8.22                   | 0.73           | 0.546                        | 5.46                | 5.39                   | 1.30           |          |
| B       | 7/27/2017 | Head        | D1750V2 SN:1050          | 4/18/2018               | 3.660                       | 36.60               | 36.76                  | -0.44          | 1.950                        | 19.50               | 19.60                  | -0.51          |          |
| B       | 7/27/2017 | Body        | D1750V2 SN:1050          | 4/18/2018               | 3.850                       | 38.50               | 37.68                  | 2.18           | 2.030                        | 20.30               | 19.92                  | 1.91           | 15,16    |
| B       | 7/28/2017 | Body        | D750V3 SN:1019           | 3/13/2018               | 0.829                       | 8.29                | 8.76                   | -5.37          | 0.558                        | 5.58                | 5.80                   | -3.79          |          |
| B       | 7/30/2017 | Body        | D1750V2 SN:1050          | 4/18/2018               | 3.800                       | 38.00               | 37.68                  | 0.85           | 2.000                        | 20.00               | 19.92                  | 0.40           |          |
| B       | 7/30/2017 | Head        | D1750V2 SN:1050          | 4/18/2018               | 3.700                       | 37.00               | 36.76                  | 0.65           | 1.980                        | 19.80               | 19.60                  | 1.02           |          |
| B       | 8/1/2017  | Body        | D750V3 SN:1019           | 3/13/2018               | 0.879                       | 8.79                | 8.76                   | 0.34           | 0.591                        | 5.91                | 5.80                   | 1.90           |          |
| B       | 8/5/2017  | Body        | D1750V2 SN:1077          | 9/14/2017               | 3.560                       | 35.60               | 36.20                  | -1.66          | 1.890                        | 18.90               | 19.30                  | -2.07          |          |
| B       | 8/5/2017  | Head        | D1750V2 SN:1077          | 9/14/2017               | 3.490                       | 34.90               | 36.00                  | -3.06          | 1.880                        | 18.80               | 19.10                  | -1.57          | 17,18    |
| B       | 8/7/2017  | Head        | D750V3 SN:1019           | 3/13/2018               | 0.877                       | 8.77                | 8.22                   | 6.69           | 0.583                        | 5.83                | 5.39                   | 8.16           | 19,20    |
| B       | 8/9/2017  | Body        | D2450V2 SN:748           | 2/8/2018                | 5.300                       | 53.00               | 51.30                  | 3.31           | 2.450                        | 24.50               | 23.90                  | 2.51           |          |
| B       | 8/10/2017 | Head        | D2450V2 SN:748           | 2/8/2018                | 5.110                       | 51.10               | 52.10                  | -1.92          | 2.370                        | 23.70               | 24.20                  | -2.07          |          |
| B       | 8/14/2017 | Body        | D2450V2 SN:748           | 2/8/2018                | 5.310                       | 53.10               | 51.30                  | 3.51           | 2.450                        | 24.50               | 23.90                  | 2.51           | 21,22    |
| B       | 8/14/2017 | Head        | D2450V2 SN:748           | 2/8/2018                | 5.160                       | 51.60               | 52.10                  | -0.96          | 2.370                        | 23.70               | 24.20                  | -2.07          |          |
| C       | 7/27/2017 | Head        | D1900V2 SN:5d140         | 4/19/2018               | 4.270                       | 42.70               | 40.80                  | 4.66           | 2.170                        | 21.70               | 21.16                  | 2.55           |          |
| C       | 7/27/2017 | Body        | D1900V2 SN:5d140         | 4/19/2018               | 4.330                       | 43.30               | 41.20                  | 5.10           | 2.210                        | 22.10               | 21.52                  | 2.70           | 23,24    |
| C       | 7/31/2017 | Body        | D1900V2 SN:5d140         | 4/19/2018               | 3.940                       | 39.40               | 41.20                  | -4.37          | 2.000                        | 20.00               | 21.52                  | -7.06          |          |
| C       | 7/31/2017 | Head        | D1900V2 SN:5d140         | 4/19/2018               | 3.940                       | 39.40               | 40.80                  | -3.43          | 2.000                        | 20.00               | 21.16                  | -5.48          |          |
| C       | 8/4/2017  | Head        | D1900V2 SN:5d140         | 4/19/2018               | 4.170                       | 41.70               | 40.80                  | 2.21           | 2.120                        | 21.20               | 21.16                  | 0.19           |          |
| C       | 8/4/2017  | Body        | D1900V2 SN:5d140         | 4/19/2018               | 4.230                       | 42.30               | 41.20                  | 2.67           | 2.150                        | 21.50               | 21.52                  | -0.09          |          |
| C       | 8/8/2017  | Head        | D1900V2 SN:5d043         | 11/9/2017               | 4.200                       | 42.00               | 40.00                  | 5.00           | 2.140                        | 21.40               | 20.90                  | 2.39           |          |
| C       | 8/8/2017  | Body        | D1900V2 SN:5d043         | 11/9/2017               | 4.160                       | 41.60               | 39.10                  | 6.39           | 2.130                        | 21.30               | 20.70                  | 2.90           |          |
| C       | 8/14/2017 | Head        | D1900V2 SN:5d043         | 11/9/2017               | 4.110                       | 41.10               | 40.00                  | 2.75           | 2.090                        | 20.90               | 20.90                  | 0.00           |          |
| C       | 8/14/2017 | Body        | D1900V2 SN:5d043         | 11/9/2017               | 4.260                       | 42.60               | 39.10                  | 8.95           | 2.180                        | 21.80               | 20.70                  | 5.31           | 25,26    |

| SAR Lab | Date      | Tissue Type | Dipole Type<br>_Serial #  | Dipole<br>Cal. Due Data | Measured Results for 1g SAR |                     |                        |                | Measured Results for 10g SAR |                     |                        |                | Plot No. |
|---------|-----------|-------------|---------------------------|-------------------------|-----------------------------|---------------------|------------------------|----------------|------------------------------|---------------------|------------------------|----------------|----------|
|         |           |             |                           |                         | Zoom Scan<br>to 100 mW      | Normalize<br>to 1 W | Target<br>(Ref. Value) | Delta<br>±10 % | Zoom Scan<br>to 100 mW       | Normalize<br>to 1 W | Target<br>(Ref. Value) | Delta<br>±10 % |          |
| D       | 7/24/2017 | Head        | D835V2 SN:4d002           | 11/8/2017               | 0.971                       | 9.71                | 9.46                   | 2.64           | 0.640                        | 6.40                | 6.15                   | 4.07           |          |
| D       | 7/27/2017 | Head        | D2600V2 SN:1006           | 9/13/2017               | 5.940                       | 59.40               | 55.50                  | 7.03           | 2.600                        | 26.00               | 25.00                  | 4.00           | 27,28    |
| D       | 7/27/2017 | Body        | D2600V2 SN:1006           | 9/13/2017               | 5.590                       | 55.90               | 54.20                  | 3.14           | 2.440                        | 24.40               | 24.30                  | 0.41           |          |
| D       | 7/27/2017 | Head        | D835V2 SN:4d002           | 11/8/2017               | 1.000                       | 10.00               | 9.46                   | 5.71           | 0.662                        | 6.62                | 6.15                   | 7.64           | 29,30    |
| D       | 7/30/2017 | Body        | D2600V2 SN:1006           | 9/13/2017               | 5.500                       | 55.00               | 54.20                  | 1.48           | 2.400                        | 24.00               | 24.30                  | -1.23          |          |
| D       | 7/31/2017 | Body        | D835V2 SN:4d002           | 11/8/2017               | 0.961                       | 9.61                | 9.55                   | 0.63           | 0.596                        | 5.96                | 6.33                   | -5.85          |          |
| D       | 8/1/2017  | Head        | D2600V2 SN:1006           | 9/13/2017               | 5.760                       | 57.60               | 55.50                  | 3.78           | 2.530                        | 25.30               | 25.00                  | 1.20           |          |
| D       | 8/3/2017  | Body        | D2600V2 SN:1006           | 9/13/2017               | 5.290                       | 52.90               | 54.20                  | -2.40          | 2.320                        | 23.20               | 24.30                  | -4.53          |          |
| D       | 8/5/2017  | Head        | D2600V2 SN:1006           | 9/13/2017               | 5.590                       | 55.90               | 55.50                  | 0.72           | 2.440                        | 24.40               | 25.00                  | -2.40          |          |
| D       | 8/5/2017  | Head        | D835V2 SN:4d002           | 11/8/2017               | 0.918                       | 9.18                | 9.46                   | -2.96          | 0.606                        | 6.06                | 6.15                   | -1.46          |          |
| D       | 8/7/2017  | Body        | D2600V2 SN:1006           | 9/13/2017               | 5.480                       | 54.80               | 54.20                  | 1.11           | 2.420                        | 24.20               | 24.30                  | -0.41          |          |
| D       | 8/9/2017  | Head        | D2600V2 SN:1006           | 9/13/2017               | 5.920                       | 59.20               | 55.50                  | 6.67           | 2.600                        | 26.00               | 25.00                  | 4.00           |          |
| D       | 8/9/2017  | Head        | D835V2 SN:4d002           | 11/8/2017               | 0.962                       | 9.62                | 9.46                   | 1.69           | 0.633                        | 6.33                | 6.15                   | 2.93           |          |
| D       | 8/9/2017  | Body        | D835V2 SN:4d002           | 11/8/2017               | 0.945                       | 9.45                | 9.55                   | -1.05          | 0.624                        | 6.24                | 6.33                   | -1.42          |          |
| D       | 8/14/2017 | Head        | D1900V2 SN:5d043          | 11/9/2017               | 4.080                       | 40.80               | 40.00                  | 2.00           | 2.100                        | 21.00               | 20.90                  | 0.48           | 31,32    |
| D       | 8/15/2017 | Head        | D2600V2 SN:1006           | 9/13/2017               | 5.520                       | 55.20               | 55.50                  | -0.54          | 2.420                        | 24.20               | 25.00                  | -3.20          |          |
| D       | 8/16/2017 | Head        | D2450V2 SN:706            | 5/9/2018                | 5.650                       | 56.50               | 52.10                  | 8.45           | 2.570                        | 25.70               | 24.40                  | 5.33           | 33,34    |
| E       | 7/28/2017 | Head        | D5GHZV2 SN:1003 (5.6 GHz) | 2/13/2018               | 7.860                       | 78.60               | 83.30                  | -5.64          | 2.210                        | 22.10               | 23.80                  | -7.14          |          |
| E       | 7/28/2017 | Body        | D5GHZV2 SN:1003 (5.6 GHz) | 2/13/2018               | 8.480                       | 84.80               | 78.30                  | 8.30           | 2.340                        | 23.40               | 22.00                  | 6.36           |          |
| E       | 7/30/2017 | Head        | D5GHZV2 SN:1003 (5.6 GHz) | 2/13/2018               | 8.230                       | 82.30               | 83.30                  | -1.20          | 2.310                        | 23.10               | 23.80                  | -2.94          |          |
| E       | 7/30/2017 | Body        | D5GHZV2 SN:1003 (5.6 GHz) | 2/13/2018               | 7.860                       | 78.60               | 78.30                  | 0.38           | 2.190                        | 21.90               | 22.00                  | -0.45          |          |
| E       | 8/3/2017  | Body        | D5GHZV2 SN:1003 (5.6 GHz) | 2/13/2018               | 8.470                       | 84.70               | 78.30                  | 8.17           | 2.350                        | 23.50               | 22.00                  | 6.82           |          |
| E       | 8/3/2017  | Head        | D5GHZV2 SN:1003 (5.6 GHz) | 2/13/2018               | 7.780                       | 77.80               | 83.30                  | -6.60          | 2.190                        | 21.90               | 23.80                  | -7.98          |          |
| E       | 8/7/2017  | Body        | D5GHZV2 SN:1003 (5.6 GHz) | 2/13/2018               | 8.410                       | 84.10               | 78.30                  | 7.41           | 2.320                        | 23.20               | 22.00                  | 5.45           |          |
| E       | 8/7/2017  | Head        | D5GHZV2 SN:1003 (5.6 GHz) | 2/13/2018               | 7.630                       | 76.30               | 83.30                  | -8.40          | 2.150                        | 21.50               | 23.80                  | -9.66          |          |
| E       | 8/11/2017 | Head        | D5GHZV2 SN:1003 (5.6 GHz) | 2/13/2018               | 7.970                       | 79.70               | 83.30                  | -4.32          | 2.240                        | 22.40               | 23.80                  | -5.88          |          |
| E       | 8/11/2017 | Body        | D5GHZV2 SN:1003 (5.6 GHz) | 2/13/2018               | 8.560                       | 85.60               | 78.30                  | 9.32           | 2.370                        | 23.70               | 22.00                  | 7.73           | 35,36    |
| E       | 8/15/2017 | Body        | D5GHZV2 SN:1168 (5.6 GHz) | 11/14/2017              | 8.010                       | 80.10               | 78.60                  | 1.91           | 2.230                        | 22.30               | 22.00                  | 1.36           |          |
| E       | 8/15/2017 | Head        | D5GHZV2 SN:1168 (5.6 GHz) | 11/14/2017              | 7.790                       | 77.90               | 83.30                  | -6.48          | 2.200                        | 22.00               | 23.80                  | -7.56          | 37,38    |
| F       | 7/28/2017 | Head        | D2450V2 SN:748            | 2/8/2018                | 5.660                       | 56.60               | 52.10                  | 8.64           | 2.540                        | 25.40               | 24.20                  | 4.96           | 39,40    |
| F       | 7/28/2017 | Body        | D2450V2 SN:748            | 2/8/2018                | 5.390                       | 53.90               | 51.30                  | 5.07           | 2.480                        | 24.80               | 23.90                  | 3.77           |          |
| F       | 7/30/2017 | Head        | D2450V2 SN:748            | 2/8/2018                | 5.630                       | 56.30               | 52.10                  | 8.06           | 2.530                        | 25.30               | 24.20                  | 4.55           |          |
| F       | 7/30/2017 | Body        | D2450V2 SN:748            | 2/8/2018                | 5.270                       | 52.70               | 51.30                  | 2.73           | 2.430                        | 24.30               | 23.90                  | 1.67           |          |
| F       | 8/3/2017  | Head        | D2450V2 SN:748            | 2/8/2018                | 5.560                       | 55.60               | 52.10                  | 6.72           | 2.490                        | 24.90               | 24.20                  | 2.89           |          |
| F       | 8/3/2017  | Body        | D2450V2 SN:748            | 2/8/2018                | 5.110                       | 51.10               | 51.30                  | -0.39          | 2.360                        | 23.60               | 23.90                  | -1.26          |          |
| F       | 8/7/2017  | Body        | D2450V2 SN:748            | 2/8/2018                | 5.280                       | 52.80               | 51.30                  | 2.92           | 2.420                        | 24.20               | 23.90                  | 1.26           |          |
| F       | 8/7/2017  | Head        | D2450V2 SN:748            | 2/8/2018                | 5.580                       | 55.80               | 52.10                  | 7.10           | 2.510                        | 25.10               | 24.20                  | 3.72           |          |
| F       | 8/11/2017 | Head        | D2450V2 SN:748            | 2/8/2018                | 5.610                       | 56.10               | 52.10                  | 7.68           | 2.530                        | 25.30               | 24.20                  | 4.55           |          |
| F       | 8/11/2017 | Body        | D2450V2 SN:748            | 2/8/2018                | 4.920                       | 49.20               | 51.30                  | -4.09          | 2.270                        | 22.70               | 23.90                  | -5.02          |          |
| F       | 8/14/2017 | Body        | D2450V2 SN:748            | 2/8/2018                | 5.010                       | 50.10               | 51.30                  | -2.34          | 2.280                        | 22.80               | 23.90                  | -4.60          |          |
| F       | 8/14/2017 | Head        | D2450V2 SN:748            | 2/8/2018                | 5.630                       | 56.30               | 52.10                  | 8.06           | 2.520                        | 25.20               | 24.20                  | 4.13           |          |

| SAR Lab | Date      | Tissue Type | Dipole Type<br>_Serial #  | Dipole<br>Cal. Due Data | Measured Results for 1g SAR |                     |                        |                | Measured Results for 10g SAR |                     |                        |                | Plot No. |
|---------|-----------|-------------|---------------------------|-------------------------|-----------------------------|---------------------|------------------------|----------------|------------------------------|---------------------|------------------------|----------------|----------|
|         |           |             |                           |                         | Zoom Scan<br>to 100 mW      | Normalize<br>to 1 W | Target<br>(Ref. Value) | Delta<br>±10 % | Zoom Scan<br>to 100 mW       | Normalize<br>to 1 W | Target<br>(Ref. Value) | Delta<br>±10 % |          |
| G       | 7/28/2017 | Body        | D5GHZV2 SN:1003 (5.8 GHz) | 2/13/2018               | 7.130                       | 71.30               | 73.50                  | -2.99          | 1.960                        | 19.60               | 20.50                  | -4.39          |          |
| G       | 7/28/2017 | Head        | D5GHZV2 SN:1003 (5.8 GHz) | 2/13/2018               | 7.300                       | 73.00               | 78.10                  | -6.53          | 2.060                        | 20.60               | 22.10                  | -6.79          |          |
| G       | 7/30/2017 | Head        | D5GHZV2 SN:1003 (5.8 GHz) | 2/13/2018               | 7.670                       | 76.70               | 78.10                  | -1.79          | 2.160                        | 21.60               | 22.10                  | -2.26          |          |
| G       | 7/30/2017 | Body        | D5GHZV2 SN:1003 (5.8 GHz) | 2/13/2018               | 7.470                       | 74.70               | 73.50                  | 1.63           | 2.060                        | 20.60               | 20.50                  | 0.49           |          |
| G       | 8/3/2017  | Body        | D5GHZV2 SN:1168 (5.8 GHz) | 11/14/2017              | 7.730                       | 77.30               | 73.90                  | 4.60           | 2.140                        | 21.40               | 20.50                  | 4.39           | 41,42    |
| G       | 8/3/2017  | Head        | D5GHZV2 SN:1168 (5.8 GHz) | 11/14/2017              | 7.800                       | 78.00               | 78.10                  | -0.13          | 2.220                        | 22.20               | 22.20                  | 0.00           |          |
| G       | 8/7/2017  | Head        | D5GHZV2 SN:1003 (5.8 GHz) | 2/13/2018               | 7.180                       | 71.80               | 78.10                  | -8.07          | 2.050                        | 20.50               | 22.10                  | -7.24          |          |
| G       | 8/7/2017  | Body        | D5GHZV2 SN:1003 (5.8 GHz) | 2/13/2018               | 7.980                       | 79.80               | 73.50                  | 8.57           | 2.200                        | 22.00               | 20.50                  | 7.32           |          |
| G       | 8/11/2017 | Body        | D5GHZV2 SN:1168 (5.8 GHz) | 11/14/2017              | 7.110                       | 71.10               | 73.90                  | -3.79          | 1.980                        | 19.80               | 20.50                  | -3.41          |          |
| G       | 8/11/2017 | Head        | D5GHZV2 SN:1168 (5.8 GHz) | 11/14/2017              | 7.480                       | 74.80               | 78.10                  | -4.23          | 2.140                        | 21.40               | 22.20                  | -3.60          |          |
| G       | 8/15/2017 | Head        | D5GHZV2 SN:1003 (5.8 GHz) | 2/13/2018               | 7.070                       | 70.70               | 78.10                  | -9.48          | 1.990                        | 19.90               | 22.10                  | -9.95          |          |
| G       | 8/15/2017 | Body        | D5GHZV2 SN:1003 (5.8 GHz) | 2/13/2018               | 8.060                       | 80.60               | 73.50                  | 9.66           | 2.220                        | 22.20               | 20.50                  | 8.29           | 43,44    |
| G       | 8/15/2017 | Body        | D2450V2 SN:748            | 2/8/2018                | 5.240                       | 52.40               | 51.30                  | 2.14           | 2.430                        | 24.30               | 23.90                  | 1.67           |          |
| G       | 8/16/2017 | Head        | D2450V2 SN:748            | 2/8/2018                | 5.510                       | 55.10               | 52.10                  | 5.76           | 2.490                        | 24.90               | 24.20                  | 2.89           | 45,46    |
| H       | 7/28/2017 | Head        | D5GHZV2 SN:1168 (5.2 GHz) | 11/14/2017              | 8.000                       | 80.00               | 76.80                  | 4.17           | 2.320                        | 23.20               | 22.00                  | 5.45           |          |
| H       | 7/29/2017 | Body        | D5GHZV2 SN:1168 (5.2 GHz) | 11/14/2017              | 7.470                       | 74.70               | 73.60                  | 1.49           | 2.120                        | 21.20               | 20.50                  | 3.41           |          |
| H       | 7/30/2017 | Body        | D5GHZV2 SN:1168 (5.2 GHz) | 11/14/2017              | 7.290                       | 72.90               | 73.60                  | -0.95          | 2.060                        | 20.60               | 20.50                  | 0.49           |          |
| H       | 7/30/2017 | Head        | D5GHZV2 SN:1168 (5.2 GHz) | 11/14/2017              | 8.220                       | 82.20               | 76.80                  | 7.03           | 2.380                        | 23.80               | 22.00                  | 8.18           | 47,48    |
| H       | 8/3/2017  | Body        | D5GHZV2 SN:1168 (5.2 GHz) | 11/14/2017              | 6.870                       | 68.70               | 73.60                  | -6.66          | 1.960                        | 19.60               | 20.50                  | -4.39          |          |
| H       | 8/3/2017  | Head        | D5GHZV2 SN:1168 (5.2 GHz) | 11/14/2017              | 7.660                       | 76.60               | 76.80                  | -0.26          | 2.230                        | 22.30               | 22.00                  | 1.36           |          |
| H       | 8/7/2017  | Head        | D5GHZV2 SN:1003 (5.2 GHz) | 2/13/2018               | 8.060                       | 80.60               | 76.50                  | 5.36           | 2.340                        | 23.40               | 21.80                  | 7.34           |          |
| H       | 8/7/2017  | Body        | D5GHZV2 SN:1003 (5.2 GHz) | 2/13/2018               | 7.670                       | 76.70               | 70.50                  | 8.79           | 2.120                        | 21.20               | 19.80                  | 7.07           | 49,50    |
| H       | 8/10/2017 | Head        | D5GHZV2 SN:1168 (5.6 GHz) | 11/14/2017              | 7.860                       | 78.60               | 83.30                  | -5.64          | 2.310                        | 23.10               | 23.80                  | -2.94          |          |
| H       | 8/11/2017 | Body        | D5GHZV2 SN:1138 (5.6 GHz) | 9/22/2017               | 8.340                       | 83.40               | 78.80                  | 5.84           | 2.340                        | 23.40               | 22.00                  | 6.36           | 51,52    |
| H       | 8/14/2017 | Body        | D5GHZV2 SN:1168 (5.2 GHz) | 11/14/2017              | 7.180                       | 71.80               | 73.60                  | -2.45          | 2.040                        | 20.40               | 20.50                  | -0.49          |          |
| H       | 8/14/2017 | Head        | D5GHZV2 SN:1168 (5.2 GHz) | 11/14/2017              | 7.650                       | 76.50               | 76.80                  | -0.39          | 2.220                        | 22.20               | 22.00                  | 0.91           |          |

## 9. Conducted Output Power Measurements

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-worn configuration by the user. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing. Refer to Sec. 6.3.5 for more information. The selection between antennas UAT and LAT in application is based on RSSI based antenna selection. The full details of power selections are described in the operational description. Refer to Sec. 10 for details of the testing. Test reductions have applied accordingly following the SAR KDB Procedure for the supported wireless technologies of the DUT. This is noted in detail for each technology in their respective Sections.

### 9.1. GSM

#### Per KDB 941225 D01 3G SAR Procedures:

SAR test reduction for GPRS and EDGE modes is determined by the source-based time-averaged output power specified for production units, including tune-up tolerance. The data mode with highest specified time-averaged output power should be tested for SAR compliance in the applicable exposure conditions. For modes with the same specified maximum output power and tolerance, the higher number time-slot configuration should be tested.

#### GSM850 Measured Results

##### GPRS (GMSK) - Coding Scheme: CS1

| Band              | Ch No.          | Freq.<br>(MHz) | MODE A |         |        |         | MODE B |         |        |         |
|-------------------|-----------------|----------------|--------|---------|--------|---------|--------|---------|--------|---------|
|                   |                 |                | UAT 1  |         | LAT 1  |         | UAT 1  |         | LAT 1  |         |
|                   |                 |                | 1 slot | 2 slots | 1 slot | 2 slots | 1 slot | 2 slots | 1 slot | 2 slots |
| Burst Power (dBm) |                 |                |        |         |        |         |        |         |        |         |
| 850               | Max Power (dBm) |                | 27.8   | 27.8    | 27.8   | 27.8    | 30.3   | 30.3    | 30.3   | 30.3    |
|                   | 128             | 824.2          | 27.3   | 27.8    | 27.3   | 27.8    | 29.7   | 30.3    | 29.7   | 30.3    |
|                   | 190             | 836.6          | 27.1   | 27.8    | 27.1   | 27.8    | 29.6   | 30.3    | 29.6   | 30.3    |
|                   | 251             | 848.8          | 27.2   | 27.8    | 27.2   | 27.8    | 29.6   | 30.3    | 29.6   | 30.3    |
| Frame Power (dBm) |                 |                |        |         |        |         |        |         |        |         |
| 850               | Max Power (dBm) |                | 18.8   | 21.8    | 18.8   | 21.8    | 21.3   | 24.3    | 21.3   | 24.3    |
|                   | 128             | 824.2          | 18.3   | 21.8    | 18.3   | 21.8    | 20.7   | 24.3    | 20.7   | 24.3    |
|                   | 190             | 836.6          | 18.1   | 21.8    | 18.1   | 21.8    | 20.6   | 24.3    | 20.6   | 24.3    |
|                   | 251             | 848.8          | 18.2   | 21.8    | 18.2   | 21.8    | 20.6   | 24.3    | 20.6   | 24.3    |

##### EGPRS (8PSK) - Coding Scheme: MCS5

| MODE A            |                 |                |        |         |        |         |        |         |        |         |
|-------------------|-----------------|----------------|--------|---------|--------|---------|--------|---------|--------|---------|
| Band              | Ch No.          | Freq.<br>(MHz) | MODE A |         |        |         | MODE B |         |        |         |
|                   |                 |                | UAT 1  |         | LAT 1  |         | UAT 1  |         | LAT 1  |         |
|                   |                 |                | 1 slot | 2 slots | 1 slot | 2 slots | 1 slot | 2 slots | 1 slot | 2 slots |
| Burst Power (dBm) |                 |                |        |         |        |         |        |         |        |         |
| 850               | Max Power (dBm) |                | 22.5   | 22.5    | 22.5   | 22.5    | 24.0   | 24.0    | 24.0   | 24.0    |
|                   | 128             | 824.2          | 21.4   | 21.5    | 21.4   | 21.5    | 23.7   | 24.0    | 23.8   | 24.0    |
|                   | 190             | 836.6          | 21.4   | 21.4    | 21.4   | 21.4    | 23.8   | 23.9    | 23.9   | 23.9    |
|                   | 251             | 848.8          | 21.4   | 21.4    | 21.4   | 21.4    | 23.8   | 24.0    | 23.9   | 24.0    |
| Frame Power (dBm) |                 |                |        |         |        |         |        |         |        |         |
| 850               | Max Power (dBm) |                | 13.5   | 16.5    | 13.5   | 16.5    | 15.0   | 18.0    | 15.0   | 18.0    |
|                   | 128             | 824.2          | 12.4   | 15.5    | 12.4   | 15.5    | 14.7   | 18.0    | 14.8   | 18.0    |
|                   | 190             | 836.6          | 12.4   | 15.4    | 12.4   | 15.4    | 14.8   | 17.9    | 14.9   | 17.9    |
|                   | 251             | 848.8          | 12.4   | 15.4    | 12.4   | 15.4    | 14.8   | 18.0    | 14.9   | 18.0    |

#### Notes:

The worst-case configuration and mode for SAR testing is determined to be as follows:

- GMSK (GPRS) mode with 2 time slots based on the maximum output power from Tune-up Procedure.
- SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode

**GSM1900 Measured Results****GPRS (GMSK) - Coding Scheme: CS1**

| Band              | Ch No.          | Freq.<br>(MHz) | MODE A |         |        |         | MODE B |         |        |         |
|-------------------|-----------------|----------------|--------|---------|--------|---------|--------|---------|--------|---------|
|                   |                 |                | UAT 1  |         | LAT 1  |         | UAT 1  |         | LAT 1  |         |
|                   |                 |                | 1 slot | 2 slots | 1 slot | 2 slots | 1 slot | 2 slots | 1 slot | 2 slots |
| Burst Power (dBm) |                 |                |        |         |        |         |        |         |        |         |
| 1900              | Max Power (dBm) |                | 26.5   | 26.0    | 26.5   | 26.5    | 29.8   | 29.8    | 29.8   | 27.3    |
|                   | 512             | 1850.2         | 25.0   | 25.0    | 25.0   | 25.0    | 28.9   | 28.5    | 28.9   | 27.3    |
|                   | 661             | 1880.0         | 25.3   | 25.0    | 25.3   | 25.0    | 28.8   | 28.5    | 28.8   | 27.3    |
|                   | 810             | 1909.8         | 25.0   | 25.0    | 25.0   | 25.0    | 28.3   | 28.5    | 28.3   | 27.3    |
| Frame Power (dBm) |                 |                |        |         |        |         |        |         |        |         |
| 1900              | Max Power (dBm) |                | 17.5   | 20.0    | 17.5   | 20.5    | 20.8   | 23.8    | 20.8   | 21.3    |
|                   | 512             | 1850.2         | 16.0   | 19.0    | 16.0   | 19.0    | 19.9   | 22.5    | 19.9   | 21.3    |
|                   | 661             | 1880.0         | 16.3   | 19.0    | 16.3   | 19.0    | 19.8   | 22.5    | 19.8   | 21.3    |
|                   | 810             | 1909.8         | 16.0   | 19.0    | 16.0   | 19.0    | 19.3   | 22.5    | 19.3   | 21.3    |

**EGPRS (8PSK) - Coding Scheme: MCS5**

| Band              | Ch No.          | Freq.<br>(MHz) | MODE A |         |        |         | MODE B |         |        |         |
|-------------------|-----------------|----------------|--------|---------|--------|---------|--------|---------|--------|---------|
|                   |                 |                | UAT 1  |         | LAT 1  |         | UAT 1  |         | LAT 1  |         |
|                   |                 |                | 1 slot | 2 slots | 1 slot | 2 slots | 1 slot | 2 slots | 1 slot | 2 slots |
| Burst Power (dBm) |                 |                |        |         |        |         |        |         |        |         |
| 1900              | Max Power (dBm) |                | 22.5   | 22.5    | 22.5   | 22.5    | 25.0   | 25.0    | 25.0   | 25.0    |
|                   | 512             | 1850.2         | 22.3   | 22.5    | 22.4   | 22.5    | 25.0   | 24.9    | 25.0   | 25.0    |
|                   | 661             | 1880.0         | 22.4   | 22.5    | 22.4   | 22.5    | 24.9   | 25.0    | 24.9   | 24.9    |
|                   | 810             | 1909.8         | 22.4   | 22.5    | 22.5   | 22.5    | 24.9   | 24.9    | 25.0   | 24.9    |
| Frame Power (dBm) |                 |                |        |         |        |         |        |         |        |         |
| 1900              | Max Power (dBm) |                | 13.5   | 16.5    | 13.5   | 16.5    | 16.0   | 19.0    | 16.0   | 19.0    |
|                   | 512             | 1850.2         | 13.3   | 16.5    | 13.4   | 16.5    | 16.0   | 18.9    | 16.0   | 19.0    |
|                   | 661             | 1880.0         | 13.4   | 16.5    | 13.4   | 16.5    | 15.9   | 19.0    | 15.9   | 18.9    |
|                   | 810             | 1909.8         | 13.4   | 16.5    | 13.5   | 16.5    | 15.9   | 18.9    | 16.0   | 18.9    |

**Notes:**

The worst-case configuration and mode for SAR testing is determined to be as follows:

- GMSK (GPRS) mode with 2 time slots based on the maximum output power from Tune-up Procedure.
- SAR is not required for EGPRS (8PSK) mode because its output power is less than that of GPRS Mode

## 9.2. W-CDMA

### Release 99 Setup Procedures used to establish the test signals

The following tests were completed according to the test requirements outlined in section 5.2 of the 3GPP TS34.121-1 specification. The DUT supports power Class 3, which has a nominal maximum output power of 24 dBm (+1.7/-3.7).

| Mode                   | Subtest                 | Rel99        |
|------------------------|-------------------------|--------------|
| WCDMA General Settings | Loopback Mode           | Test Mode 2  |
|                        | Rel99 RMC               | 12.2kbps RMC |
|                        | Power Control Algorithm | Algorithm2   |
|                        | $\beta_c/\beta_d$       | 8/15         |

### HSDPA Setup Procedures used to establish the test signals

The following 4 Sub-tests were completed according to Release 5 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

|                         | Mode                                 | HSDPA        | HSDPA | HSDPA | HSDPA |
|-------------------------|--------------------------------------|--------------|-------|-------|-------|
|                         | Subtest                              | 1            | 2     | 3     | 4     |
| W-CDMA General Settings | Loopback Mode                        | Test Mode 1  |       |       |       |
|                         | Rel99 RMC                            | 12.2kbps RMC |       |       |       |
|                         | HSDPA FRC                            | H-Set 1      |       |       |       |
|                         | Power Control Algorithm              | Algorithm 2  |       |       |       |
|                         | $\beta_c$                            | 2/15         | 11/15 | 15/15 | 15/15 |
|                         | $\beta_d$                            | 15/15        | 15/15 | 8/15  | 4/15  |
|                         | Bd (SF)                              | 64           |       |       |       |
|                         | $\beta_c/\beta_d$                    | 2/15         | 11/15 | 15/8  | 15/4  |
|                         | $\beta_{hs}$                         | 4/15         | 24/15 | 30/15 | 30/15 |
| HSDPA Specific Settings | MPR (dB)                             | 0            | 0     | 0.5   | 0.5   |
|                         | $D_{ACK}$                            | 8            |       |       |       |
|                         | $D_{NAK}$                            | 8            |       |       |       |
|                         | DCQI                                 | 8            |       |       |       |
|                         | Ack-Nack repetition factor           | 3            |       |       |       |
|                         | CQI Feedback (Table 5.2B.4)          | 4ms          |       |       |       |
|                         | CQI Repetition Factor (Table 5.2B.4) | 2            |       |       |       |
|                         | $A_{hs}=\beta_{hs}/\beta_c$          | 30/15        |       |       |       |

**HSPA (HSDPA & HSUPA) Setup Procedures used to establish the test signals**

The following 5 Sub-tests were completed according to Release 6 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

|                               | Mode                                 | HSPA          |       |       |       |             |
|-------------------------------|--------------------------------------|---------------|-------|-------|-------|-------------|
|                               | Subtest                              | 1             | 2     | 3     | 4     | 5           |
| WCDMA<br>General<br>Settings  | Loopback Mode                        | Test Mode 1   |       |       |       |             |
|                               | Rel99 RMC                            | 12.2 kbps RMC |       |       |       |             |
|                               | HSDPA FRC                            | H-Set 1       |       |       |       |             |
|                               | HSUPA Test                           | HSPA          |       |       |       |             |
|                               | Power Control Algorithm              | Algorithm 2   |       |       |       | Algorithm 1 |
|                               | $\beta_c$                            | 11/15         | 6/15  | 15/15 | 2/15  | 15/15       |
|                               | $\beta_d$                            | 15/15         | 15/15 | 9/15  | 15/15 | 0           |
|                               | $\beta_{ec}$                         | 209/225       | 12/15 | 30/15 | 2/15  | 5/15        |
|                               | $\beta_c/\beta_d$                    | 11/15         | 6/15  | 15/9  | 2/15  | 15/1        |
|                               | $\beta_{hs}$                         | 22/15         | 12/15 | 30/15 | 4/15  | 5/15        |
|                               | $\beta_{ed}$                         | 1309/225      | 94/75 | 47/15 | 56/75 | 47/15       |
| HSDPA<br>Specific<br>Settings | CM (dB)                              | 1             | 3     | 2     | 3     | 1           |
|                               | MPR (dB)                             | 0             | 2     | 1     | 2     | 0           |
|                               | DACK                                 | 8             |       |       |       | 0           |
|                               | DNAK                                 | 8             |       |       |       | 0           |
|                               | DCQI                                 | 8             |       |       |       | 0           |
|                               | Ack-Nack repetition factor           | 3             |       |       |       |             |
|                               | CQI Feedback (Table 5.2B.4)          | 4ms           |       |       |       |             |
| HSUPA<br>Specific<br>Settings | CQI Repetition Factor (Table 5.2B.4) | 2             |       |       |       |             |
|                               | $A_{hs} = \beta_{hs}/\beta_c$        | 30/15         |       |       |       |             |
|                               | E-DPDCCCH                            | 6             | 8     | 8     | 5     | 7           |
|                               | DHARQ                                | 0             | 0     | 0     | 0     | 0           |
|                               | AG Index                             | 20            | 12    | 15    | 17    | 21          |
|                               | ETFCI (from 34.121 Table C.11.1.3)   | 75            | 67    | 92    | 71    | 81          |
|                               | Associated Max UL Data Rate kbps     | 242.1         | 174.9 | 482.8 | 205.8 | 308.9       |
|                               | Reference E-TFCIs                    | 5             | 5     | 2     | 5     | 1           |
|                               | Reference E-TFCI                     | 11            | 11    | 11    | 11    | 67          |
|                               | Reference E-TFCI PO                  | 4             | 4     | 4     | 4     | 18          |
|                               | Reference E-TFCI                     | 67            | 67    | 92    | 67    | 67          |
|                               | Reference E-TFCI PO                  | 18            | 18    | 18    | 18    | 18          |
|                               | Reference E-TFCI                     | 71            | 71    | 71    | 71    | 71          |
|                               | Reference E-TFCI PO                  | 23            | 23    | 23    | 23    | 23          |
|                               | Reference E-TFCI                     | 75            | 75    | 75    | 75    | 75          |
|                               | Reference E-TFCI PO                  | 26            | 26    | 26    | 26    | 26          |
|                               | Reference E-TFCI                     | 81            | 81    | 81    | 81    | 81          |
|                               | Reference E-TFCI PO                  | 27            | 27    | 27    | 27    | 27          |
|                               | Maximum Channelization Codes         | 2xSF2         |       |       |       | SF4         |

**DC-HSDPA Setup Procedures used to establish the test signals**

The following tests were completed according to procedures in section 7.3.13 of 3GPP TS34.108 v9.5.0. A summary of these settings are illustrated below:

Downlink Physical Channels are set as per 3GPP TS34.121-1 v9.0.0 E.5.0

**Table E.5.0: Levels for HSDPA connection setup**

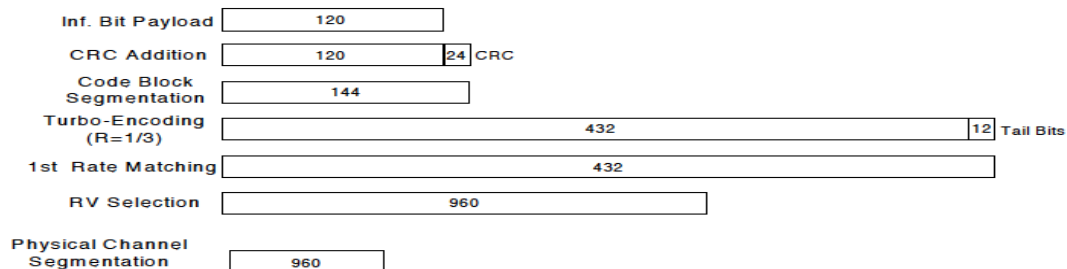
| Parameter During Connection setup | Unit | Value |
|-----------------------------------|------|-------|
| P-CPICH_Ec/Ior                    | dB   | -10   |
| P-CCPCH and SCH_Ec/Ior            | dB   | -12   |
| PICH_Ec/Ior                       | dB   | -15   |
| HS-PDSCH                          | dB   | off   |
| HS-SCCH_1                         | dB   | off   |
| DPCH_Ec/Ior                       | dB   | -5    |
| OCNS_Ec/Ior                       | dB   | -3.1  |

Call is set up as per 3GPP TS34.108 v9.5.0 sub clause 7.3.13

The configurations of the fixed reference channels for HSDPA RF tests are described in 3GPP TS 34.121, annex C for FDD and 3GPP TS 34.122.

**Table C.8.1.12: Fixed Reference Channel H-Set 12**

| Parameter                                                                                                                                              | Unit       | Value |
|--------------------------------------------------------------------------------------------------------------------------------------------------------|------------|-------|
| Nominal Avg. Inf. Bit Rate                                                                                                                             | kbps       | 60    |
| Inter-TTI Distance                                                                                                                                     | TTI's      | 1     |
| Number of HARQ Processes                                                                                                                               | Proces ses | 6     |
| Information Bit Payload ( $N_{INF}$ )                                                                                                                  | Bits       | 120   |
| Number Code Blocks                                                                                                                                     | Blocks     | 1     |
| Binary Channel Bits Per TTI                                                                                                                            | Bits       | 960   |
| Total Available SML's in UE                                                                                                                            | SML's      | 19200 |
| Number of SML's per HARQ Proc.                                                                                                                         | SML's      | 3200  |
| Coding Rate                                                                                                                                            |            | 0.15  |
| Number of Physical Channel Codes                                                                                                                       | Codes      | 1     |
| Modulation                                                                                                                                             |            | QPSK  |
| Note 1: The RMC is intended to be used for DC-HSDPA mode and both cells shall transmit with identical parameters as listed in the table.               |            |       |
| Note 2: Maximum number of transmission is limited to 1, i.e., retransmission is not allowed. The redundancy and constellation version 0 shall be used. |            |       |

**Figure C.8.19: Coding rate for Fixed reference Channel H-Set 12 (QPSK)**

The following 4 Sub-tests for HSDPA were completed according to Release 8 procedures in section 5.2 of 3GPP TS34.121. A summary of subtest settings are illustrated below:

|                         | Mode                          | HSDPA        | HSDPA | HSDPA | HSDPA |
|-------------------------|-------------------------------|--------------|-------|-------|-------|
|                         | Subtest                       | 1            | 2     | 3     | 4     |
| WCDMA General Settings  | Loopback Mode                 | Test Mode 1  |       |       |       |
|                         | Rel99 RMC                     | 12.2kbps RMC |       |       |       |
|                         | HSDPA FRC                     | H-Set 1      |       |       |       |
|                         | Power Control Algorithm       | Algorithm2   |       |       |       |
|                         | $\beta_c$                     | 2/15         | 11/15 | 15/15 | 15/15 |
|                         | $\beta_d$                     | 15/15        | 15/15 | 8/15  | 4/15  |
|                         | $\beta_d$ (SF)                | 64           |       |       |       |
|                         | $\beta_c/\beta_d$             | 2/15         | 11/15 | 15/8  | 15/4  |
|                         | $\beta_{hs}$                  | 4/15         | 24/15 | 30/15 | 30/15 |
| HSDPA Specific Settings | MPR (dB)                      | 0            | 0     | 0.5   | 0.5   |
|                         | DACK                          | 8            |       |       |       |
|                         | DNAK                          | 8            |       |       |       |
|                         | DCQI                          | 8            |       |       |       |
|                         | Ack-Nack Repetition factor    | 3            |       |       |       |
|                         | CQI Feedback                  | 4ms          |       |       |       |
|                         | CQI Repetition Factor         | 2            |       |       |       |
|                         | $A_{hs} = \beta_{hs}/\beta_c$ | 30/15        |       |       |       |

**HSPA+**

The following 1 Sub-test was completed according to Release 7 procedures in section 5.2 of 3GPP TS34.121. A summary of these settings are illustrated below:

**Table C.11.1.4:  $\beta$  values for transmitter characteristics tests with HS-DPCCH and E-DCH with 16QAM**

| Sub-test                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | $\beta_c$<br>(Note 3) | $\beta_d$ | $\beta_{HS}$<br>(Note 1) | $\beta_{ec}$ | $\beta_{ed}$<br>(2xSF2)<br>(Note 4)            | $\beta_{ed}$<br>(2xSF4)<br>(Note 4)            | CM<br>(dB)<br>(Note 2) | MPR<br>(dB)<br>(Note 2) | AG<br>Index<br>(Note 4) | E-TFCI<br>(Note 5) | E-TFCI<br>(boost) |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------|--------------------------|--------------|------------------------------------------------|------------------------------------------------|------------------------|-------------------------|-------------------------|--------------------|-------------------|
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 1                     | 0         | 30/15                    | 30/15        | $\beta_{ed1}$ : 30/15<br>$\beta_{ed2}$ : 30/15 | $\beta_{ed3}$ : 24/15<br>$\beta_{ed4}$ : 24/15 | 3.5                    | 2.5                     | 14                      | 105                | 105               |
| <p>Note 1: <math>\Delta_{ACK}</math>, <math>\Delta_{NACK}</math> and <math>\Delta_{CQI} = 30/15</math> with <math>\beta_{hs} = 30/15 * \beta_c</math>.</p> <p>Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).</p> <p>Note 3: DPDCH is not configured, therefore the <math>\beta_c</math> is set to 1 and <math>\beta_d = 0</math> by default.</p> <p>Note 4: <math>\beta_{ed}</math> can not be set directly; it is set by Absolute Grant Value.</p> <p>Note 5: All the sub-tests require the UE to transmit 2SF2+2SF4 16QAM EDCH and they apply for UE using E-DPDCH category 7. E-DCH TTI is set to 2ms TTI and E-DCH table index = 2. To support these E-DCH configurations DPDCH is not allocated. The UE is signalled to use the extrapolation algorithm.</p> |                       |           |                          |              |                                                |                                                |                        |                         |                         |                    |                   |

**W-CDMA Band V Measured Results**

| Band             | Mode      |                 | UL Ch No.       | Freq.<br>(MHz) | MPR<br>(dB) | Avg Pwr (dBm) |       |        |       |      |
|------------------|-----------|-----------------|-----------------|----------------|-------------|---------------|-------|--------|-------|------|
|                  |           |                 |                 |                |             | MODE A        |       | MODE B |       |      |
|                  |           |                 |                 |                |             | UAT 1         | LAT 1 | UAT 1  | LAT 1 |      |
| W-CDMA<br>Band V | Rel 99    | Max Power (dBm) |                 |                |             | 24.3          | 24.3  | 24.8   | 24.8  |      |
|                  |           | RMC, 12.2 kbps  | 4132            | 826.4          | N/A         | 24.3          | 24.3  | 24.8   | 24.8  |      |
|                  |           |                 | 4183            | 836.6          | N/A         | 24.3          | 24.3  | 24.8   | 24.8  |      |
|                  |           |                 | 4233            | 846.6          | N/A         | 24.3          | 24.3  | 24.8   | 24.8  |      |
|                  | HSDPA     | Max Power (dBm) |                 |                |             | 24.3          | 24.3  | 24.8   | 24.8  |      |
|                  |           | Subtest 1       | 4132            | 826.4          | 0           | 24.3          | 24.3  | 24.3   | 24.3  |      |
|                  |           |                 | 4183            | 836.6          | 0           | 24.2          | 24.2  | 24.2   | 24.2  |      |
|                  |           |                 | 4233            | 846.6          | 0           | 24.3          | 24.3  | 24.1   | 24.1  |      |
|                  |           | Subtest 2       | 4132            | 826.4          | 0           | 24.3          | 24.3  | 24.1   | 24.1  |      |
|                  |           |                 | 4183            | 836.6          | 0           | 24.3          | 24.3  | 24.1   | 24.1  |      |
|                  |           |                 | 4233            | 846.6          | 0           | 24.2          | 24.2  | 24.2   | 24.2  |      |
|                  |           | Subtest 3       | 4132            | 826.4          | 0.5         | 23.8          | 23.8  | 23.7   | 23.7  |      |
|                  |           |                 | 4183            | 836.6          | 0.5         | 23.8          | 23.8  | 23.8   | 23.8  |      |
|                  |           |                 | 4233            | 846.6          | 0.5         | 23.7          | 23.7  | 23.7   | 23.7  |      |
|                  |           | Subtest 4       | 4132            | 826.4          | 0.5         | 23.8          | 23.8  | 23.7   | 23.7  |      |
|                  |           |                 | 4183            | 836.6          | 0.5         | 23.7          | 23.7  | 23.8   | 23.8  |      |
|                  |           |                 | 4233            | 846.6          | 0.5         | 23.8          | 23.8  | 23.7   | 23.7  |      |
|                  |           | HSUPA           | Max Power (dBm) |                |             |               | 24.3  | 24.3   | 24.8  | 24.8 |
|                  |           |                 | Subtest 1       | 4132           | 826.4       | 0             | 24.2  | 24.2   | 24.2  | 24.2 |
|                  |           |                 |                 | 4183           | 836.6       | 0             | 24.3  | 24.3   | 24.1  | 24.1 |
|                  | 4233      |                 |                 | 846.6          | 0           | 24.3          | 24.3  | 24.1   | 24.1  |      |
|                  | Subtest 2 |                 | 4132            | 826.4          | 2           | 22.3          | 22.3  | 22.4   | 22.4  |      |
|                  |           |                 | 4183            | 836.6          | 2           | 22.2          | 22.2  | 22.4   | 22.4  |      |
|                  |           |                 | 4233            | 846.6          | 2           | 22.3          | 22.3  | 22.3   | 22.3  |      |
|                  | Subtest 3 |                 | 4132            | 826.4          | 1           | 23.3          | 23.3  | 23.2   | 23.2  |      |
|                  |           |                 | 4183            | 836.6          | 1           | 23.3          | 23.3  | 23.2   | 23.2  |      |
|                  |           |                 | 4233            | 846.6          | 1           | 23.2          | 23.2  | 23.1   | 23.1  |      |
|                  | Subtest 4 |                 | 4132            | 826.4          | 2           | 22.3          | 22.3  | 22.2   | 22.2  |      |
|                  |           |                 | 4183            | 836.6          | 2           | 22.3          | 22.3  | 22.2   | 22.2  |      |
|                  |           |                 | 4233            | 846.6          | 2           | 22.2          | 22.2  | 22.2   | 22.2  |      |
|                  | Subtest 5 |                 | 4132            | 826.4          | 0           | 24.3          | 24.3  | 24.1   | 24.1  |      |
|                  |           |                 | 4183            | 836.6          | 0           | 24.3          | 24.3  | 24.1   | 24.1  |      |
|                  |           |                 | 4233            | 846.6          | 0           | 24.3          | 24.3  | 24.2   | 24.2  |      |
|                  | DC-HSDPA  | Max Power (dBm) |                 |                |             | 24.3          | 24.3  | 24.8   | 24.8  |      |
|                  |           | Subtest 1       | 4132            | 826.4          | 0           | 24.2          | 24.2  | 24.2   | 24.2  |      |
|                  |           |                 | 4183            | 836.6          | 0           | 24.3          | 24.3  | 24.1   | 24.1  |      |
|                  |           |                 | 4233            | 846.6          | 0           | 24.3          | 24.3  | 24.1   | 24.1  |      |
|                  |           | Subtest 2       | 4132            | 826.4          | 0           | 24.3          | 24.3  | 24.1   | 24.1  |      |
|                  |           |                 | 4183            | 836.6          | 0           | 24.3          | 24.3  | 24.1   | 24.1  |      |
|                  |           |                 | 4233            | 846.6          | 0           | 24.3          | 24.3  | 24.2   | 24.2  |      |
|                  |           | Subtest 3       | 4132            | 826.4          | 0.5         | 23.8          | 23.8  | 23.7   | 23.7  |      |
|                  |           |                 | 4183            | 836.6          | 0.5         | 23.8          | 23.8  | 23.8   | 23.8  |      |
|                  |           |                 | 4233            | 846.6          | 0.5         | 23.7          | 23.7  | 23.7   | 23.7  |      |
|                  |           | Subtest 4       | 4132            | 826.4          | 0.5         | 23.8          | 23.8  | 23.7   | 23.7  |      |
|                  |           |                 | 4183            | 836.6          | 0.5         | 23.8          | 23.8  | 23.8   | 23.8  |      |
|                  |           |                 | 4233            | 846.6          | 0.5         | 23.7          | 23.7  | 23.7   | 23.7  |      |
|                  |           | HSPA+           | Max Power (dBm) |                |             |               | 24.3  | 24.3   | 24.8  | 24.8 |
|                  |           |                 | Subtest 1       | 4132           | 826.4       | 2.5           | 21.8  | 21.8   | 22.3  | 22.3 |
|                  |           |                 |                 | 4183           | 836.6       | 2.5           | 21.7  | 21.7   | 22.2  | 22.2 |
|                  | 4233      |                 |                 | 846.6          | 2.5         | 21.8          | 21.8  | 22.3   | 22.3  |      |

**W-CDMA Band IV Measured Results**

| Band              | Mode      |                 | UL Ch No.       | Freq.<br>(MHz) | MPR<br>(dB) | Avg Pwr (dBm) |       |        |       |      |
|-------------------|-----------|-----------------|-----------------|----------------|-------------|---------------|-------|--------|-------|------|
|                   |           |                 |                 |                |             | MODE A        |       | MODE B |       |      |
|                   |           |                 |                 |                |             | UAT 1         | LAT 1 | UAT 1  | LAT 1 |      |
| W-CDMA<br>Band IV | Rel 99    | Max Power (dBm) |                 |                |             | 21.8          | 22.3  | 25.3   | 24.5  |      |
|                   |           | RMC, 12.2 kbps  | 1312            | 1712.4         | N/A         | 21.8          | 22.3  | 25.3   | 24.4  |      |
|                   |           |                 | 1413            | 1732.6         | N/A         | 21.8          | 22.3  | 25.3   | 24.4  |      |
|                   |           |                 | 1513            | 1752.6         | N/A         | 21.8          | 22.3  | 25.3   | 24.4  |      |
|                   | HSDPA     | Max Power (dBm) |                 |                |             | 21.8          | 22.3  | 25.3   | 24.5  |      |
|                   |           | Subtest 1       | 1312            | 1712.4         | 0           | 21.8          | 22.3  | 25.3   | 24.3  |      |
|                   |           |                 | 1413            | 1732.6         | 0           | 21.8          | 22.2  | 25.2   | 24.3  |      |
|                   |           |                 | 1513            | 1752.6         | 0           | 21.7          | 22.3  | 25.3   | 24.4  |      |
|                   |           | Subtest 2       | 1312            | 1712.4         | 0           | 21.8          | 22.3  | 25.3   | 24.4  |      |
|                   |           |                 | 1413            | 1732.6         | 0           | 21.7          | 22.3  | 25.2   | 24.4  |      |
|                   |           |                 | 1513            | 1752.6         | 0           | 21.8          | 22.2  | 25.3   | 24.4  |      |
|                   |           | Subtest 3       | 1312            | 1712.4         | 0.5         | 21.2          | 21.8  | 24.8   | 24.0  |      |
|                   |           |                 | 1413            | 1732.6         | 0.5         | 21.3          | 21.8  | 24.7   | 24.0  |      |
|                   |           |                 | 1513            | 1752.6         | 0.5         | 21.3          | 21.7  | 24.8   | 23.9  |      |
|                   |           | Subtest 4       | 1312            | 1712.4         | 0.5         | 21.3          | 21.7  | 24.8   | 24.0  |      |
|                   |           |                 | 1413            | 1732.6         | 0.5         | 21.2          | 21.8  | 24.8   | 23.9  |      |
|                   |           |                 | 1513            | 1752.6         | 0.5         | 21.3          | 21.8  | 24.7   | 24.0  |      |
|                   |           | HSUPA           | Max Power (dBm) |                |             |               | 21.8  | 22.3   | 25.3  | 24.5 |
|                   |           |                 | Subtest 1       | 1312           | 1712.4      | 0             | 21.7  | 22.3   | 25.2  | 24.3 |
|                   |           |                 |                 | 1413           | 1732.6      | 0             | 21.8  | 22.3   | 25.3  | 24.4 |
|                   | 1513      |                 |                 | 1752.6         | 0           | 21.7          | 22.3  | 25.3   | 24.3  |      |
|                   | Subtest 2 |                 | 1312            | 1712.4         | 2           | 19.7          | 20.3  | 23.3   | 22.5  |      |
|                   |           |                 | 1413            | 1732.6         | 2           | 19.8          | 20.3  | 23.2   | 22.4  |      |
|                   |           |                 | 1513            | 1752.6         | 2           | 19.8          | 20.3  | 23.3   | 22.4  |      |
|                   | Subtest 3 |                 | 1312            | 1712.4         | 1           | 20.8          | 21.3  | 24.3   | 23.5  |      |
|                   |           |                 | 1413            | 1732.6         | 1           | 20.7          | 21.2  | 24.3   | 23.4  |      |
|                   |           |                 | 1513            | 1752.6         | 1           | 20.7          | 21.3  | 24.3   | 23.5  |      |
|                   | Subtest 4 |                 | 1312            | 1712.4         | 2           | 19.7          | 20.2  | 23.2   | 22.5  |      |
|                   |           |                 | 1413            | 1732.6         | 2           | 19.8          | 20.3  | 23.3   | 22.4  |      |
|                   |           |                 | 1513            | 1752.6         | 2           | 19.8          | 20.3  | 23.2   | 22.5  |      |
|                   | Subtest 5 |                 | 1312            | 1712.4         | 0           | 21.8          | 22.2  | 25.3   | 24.5  |      |
|                   |           |                 | 1413            | 1732.6         | 0           | 21.7          | 22.3  | 25.3   | 24.5  |      |
|                   |           |                 | 1513            | 1752.6         | 0           | 21.8          | 22.3  | 25.3   | 24.5  |      |
|                   | DC-HSDPA  | Max Power (dBm) |                 |                |             | 21.8          | 22.3  | 25.3   | 24.5  |      |
|                   |           | Subtest 1       | 1312            | 1712.4         | 0           | 21.8          | 22.2  | 25.2   | 24.4  |      |
|                   |           |                 | 1413            | 1732.6         | 0           | 21.8          | 22.3  | 25.2   | 24.5  |      |
|                   |           |                 | 1513            | 1752.6         | 0           | 21.7          | 22.3  | 25.3   | 24.5  |      |
|                   |           | Subtest 2       | 1312            | 1712.4         | 0           | 21.8          | 22.3  | 25.3   | 24.4  |      |
|                   |           |                 | 1413            | 1732.6         | 0           | 21.7          | 22.3  | 25.3   | 24.4  |      |
|                   |           |                 | 1513            | 1752.6         | 0           | 21.8          | 22.2  | 25.3   | 24.5  |      |
|                   |           | Subtest 3       | 1312            | 1712.4         | 0.5         | 21.3          | 21.8  | 24.8   | 24.0  |      |
|                   |           |                 | 1413            | 1732.6         | 0.5         | 21.2          | 21.7  | 24.7   | 23.9  |      |
|                   |           |                 | 1513            | 1752.6         | 0.5         | 21.2          | 21.8  | 24.8   | 23.9  |      |
|                   |           | Subtest 4       | 1312            | 1712.4         | 0.5         | 21.3          | 21.8  | 24.8   | 24.0  |      |
|                   |           |                 | 1413            | 1732.6         | 0.5         | 21.2          | 21.7  | 24.7   | 24.0  |      |
|                   |           |                 | 1513            | 1752.6         | 0.5         | 21.3          | 21.8  | 24.8   | 24.0  |      |
|                   |           | HSPA+           | Max Power (dBm) |                |             |               | 21.8  | 22.3   | 25.3  | 24.5 |
|                   |           |                 | Subtest 1       | 1312           | 1712.4      | 2.5           | 19.3  | 19.7   | 22.8  | 21.9 |
|                   |           |                 |                 | 1413           | 1732.6      | 2.5           | 19.3  | 19.7   | 22.7  | 22.0 |
|                   | 1513      |                 |                 | 1752.6         | 2.5         | 19.3          | 19.8  | 22.7   | 22.0  |      |

**W-CDMA Band II Measured Results**

| Band              | Mode      | UL Ch No.       | Freq.<br>(MHz)  | MPR<br>(dB) | Avg Pwr (dBm) |       |        |       |      |      |
|-------------------|-----------|-----------------|-----------------|-------------|---------------|-------|--------|-------|------|------|
|                   |           |                 |                 |             | MODE A        |       | MODE B |       |      |      |
|                   |           |                 |                 |             | UAT 1         | LAT 1 | UAT 1  | LAT 1 |      |      |
| W-CDMA<br>Band II | Rel 99    | Max Power (dBm) |                 |             | 19.5          | 21.3  | 25.3   | 23.3  |      |      |
|                   |           | RMC, 12.2 kbps  | 9262            | 1852.4      | N/A           | 19.5  | 21.3   | 25.3  | 23.3 |      |
|                   |           |                 | 9400            | 1880.0      | N/A           | 19.5  | 21.3   | 25.3  | 23.3 |      |
|                   |           |                 | 9538            | 1907.6      | N/A           | 19.5  | 21.3   | 25.3  | 23.3 |      |
|                   | HSDPA     | Max Power (dBm) |                 |             | 19.5          | 21.3  | 25.3   | 23.3  |      |      |
|                   |           | Subtest 1       | 9262            | 1852.4      | 0             | 19.5  | 21.3   | 25.3  | 23.3 |      |
|                   |           |                 | 9400            | 1880.0      | 0             | 19.5  | 21.2   | 25.3  | 23.3 |      |
|                   |           |                 | 9538            | 1907.6      | 0             | 19.4  | 21.3   | 25.3  | 23.2 |      |
|                   |           | Subtest 2       | 9262            | 1852.4      | 0             | 19.5  | 21.3   | 25.3  | 23.3 |      |
|                   |           |                 | 9400            | 1880.0      | 0             | 19.5  | 21.2   | 25.3  | 23.3 |      |
|                   |           |                 | 9538            | 1907.6      | 0             | 19.3  | 21.2   | 25.3  | 23.2 |      |
|                   |           | Subtest 3       | 9262            | 1852.4      | 0.5           | 19.0  | 19.7   | 24.8  | 22.7 |      |
|                   |           |                 | 9400            | 1880.0      | 0.5           | 19.0  | 19.8   | 24.7  | 22.8 |      |
|                   |           |                 | 9538            | 1907.6      | 0.5           | 18.9  | 19.8   | 24.8  | 22.7 |      |
|                   |           | Subtest 4       | 9262            | 1852.4      | 0.5           | 18.9  | 19.8   | 24.7  | 22.8 |      |
|                   |           |                 | 9400            | 1880.0      | 0.5           | 19.0  | 19.7   | 24.7  | 22.8 |      |
|                   |           |                 | 9538            | 1907.6      | 0.5           | 18.9  | 19.8   | 24.8  | 22.8 |      |
|                   |           | HSUPA           | Max Power (dBm) |             |               | 19.5  | 21.3   | 25.3  | 23.3 |      |
|                   |           |                 | Subtest 1       | 9262        | 1852.4        | 0     | 19.5   | 21.2  | 25.3 | 23.3 |
|                   |           |                 |                 | 9400        | 1880.0        | 0     | 19.5   | 21.3  | 25.3 | 23.2 |
|                   | 9538      |                 |                 | 1907.6      | 0             | 19.4  | 21.2   | 25.2  | 23.3 |      |
|                   | Subtest 2 |                 | 9262            | 1852.4      | 2             | 17.4  | 19.3   | 23.3  | 21.3 |      |
|                   |           |                 | 9400            | 1880.0      | 2             | 17.4  | 19.3   | 23.2  | 21.3 |      |
|                   |           |                 | 9538            | 1907.6      | 2             | 17.5  | 19.3   | 23.3  | 21.2 |      |
|                   | Subtest 3 |                 | 9262            | 1852.4      | 1             | 18.5  | 20.3   | 24.3  | 22.3 |      |
|                   |           |                 | 9400            | 1880.0      | 1             | 18.4  | 20.2   | 24.3  | 22.3 |      |
|                   |           |                 | 9538            | 1907.6      | 1             | 18.5  | 20.2   | 24.2  | 22.2 |      |
|                   | Subtest 4 |                 | 9262            | 1852.4      | 2             | 17.5  | 19.3   | 23.2  | 21.2 |      |
|                   |           |                 | 9400            | 1880.0      | 2             | 17.4  | 19.2   | 23.2  | 21.3 |      |
|                   |           |                 | 9538            | 1907.6      | 2             | 17.5  | 19.3   | 23.3  | 21.2 |      |
|                   | Subtest 5 |                 | 9262            | 1852.4      | 0             | 19.4  | 21.3   | 25.3  | 23.2 |      |
|                   |           |                 | 9400            | 1880.0      | 0             | 19.5  | 21.3   | 25.3  | 23.3 |      |
|                   |           |                 | 9538            | 1907.6      | 0             | 19.4  | 21.3   | 25.2  | 23.2 |      |
|                   | DC-HSDPA  | Max Power (dBm) |                 |             | 19.5          | 21.3  | 25.3   | 23.3  |      |      |
|                   |           | Subtest 1       | 9262            | 1852.4      | 0             | 19.5  | 21.2   | 25.3  | 23.3 |      |
|                   |           |                 | 9400            | 1880.0      | 0             | 19.5  | 21.3   | 25.2  | 23.3 |      |
|                   |           |                 | 9538            | 1907.6      | 0             | 19.4  | 21.3   | 25.3  | 23.2 |      |
|                   |           | Subtest 2       | 9262            | 1852.4      | 0             | 19.4  | 21.3   | 25.3  | 23.3 |      |
|                   |           |                 | 9400            | 1880.0      | 0             | 19.5  | 21.3   | 25.3  | 23.2 |      |
|                   |           |                 | 9538            | 1907.6      | 0             | 19.4  | 21.3   | 25.3  | 23.3 |      |
|                   |           | Subtest 3       | 9262            | 1852.4      | 0.5           | 19.0  | 19.7   | 24.8  | 22.8 |      |
|                   |           |                 | 9400            | 1880.0      | 0.5           | 19.0  | 19.7   | 24.8  | 22.8 |      |
|                   |           |                 | 9538            | 1907.6      | 0.5           | 18.9  | 19.8   | 24.7  | 22.7 |      |
|                   |           | Subtest 4       | 9262            | 1852.4      | 0.5           | 18.9  | 19.8   | 24.7  | 22.7 |      |
|                   |           |                 | 9400            | 1880.0      | 0.5           | 19.0  | 19.8   | 24.8  | 22.7 |      |
|                   |           |                 | 9538            | 1907.6      | 0.5           | 18.9  | 19.8   | 24.8  | 22.8 |      |
|                   |           | HSPA+           | Max Power (dBm) |             |               | 19.5  | 21.3   | 25.3  | 23.3 |      |
|                   |           |                 | Subtest 1       | 9262        | 1852.4        | 2.5   | 17.0   | 18.8  | 22.8 | 20.7 |
|                   |           |                 |                 | 9400        | 1880.0        | 2.5   | 17.0   | 18.8  | 22.8 | 20.7 |
|                   | 9538      |                 |                 | 1907.6      | 2.5           | 17.0  | 18.7   | 22.8  | 20.8 |      |

### 9.3. CDMA

#### 1x Advanced Setup Procedures used to establish the test signals

##### Call box setup procedure

- Protocol Rev > 6 (IS-2000-0)
- System ID: 331; NID: 65535, Reg. Ch. #.:
- Radio Config (RC) > Fwd11,Rvs8
- Service Option (SO) Setup > SO75 (Loopback)
- Traffic Data Rate > Full
- Rvs Power Ctrl > All Up bits (Maximum TxPout)
- Reverse Power Control Mode: 00-200 to 400 bps
- Smart blanking was disabled.

#### CDMA BC0 Measured Results

| Band | Mode             |                                                              | Ch No. | Freq.<br>(MHz) | Avg Pwr (dBm) |       |        |       |
|------|------------------|--------------------------------------------------------------|--------|----------------|---------------|-------|--------|-------|
|      |                  |                                                              |        |                | MODE A        |       | MODE B |       |
|      |                  |                                                              |        |                | UAT 1         | LAT 1 | UAT 1  | LAT 1 |
| BC 0 | Max Power (dBm)  |                                                              |        |                | 23.3          | 23.3  | 24.8   | 24.8  |
|      | 1xRTT            | RC1 SO55<br>(Loopback)                                       | 1013   | 824.70         | 23.3          | 23.3  | 24.8   | 24.8  |
|      |                  |                                                              | 384    | 836.52         | 23.3          | 23.3  | 24.8   | 24.8  |
|      |                  |                                                              | 777    | 848.31         | 23.3          | 23.3  | 24.8   | 24.8  |
|      |                  | RC3 SO55<br>(Loopback)                                       | 1013   | 824.70         | 23.3          | 23.3  | 24.8   | 24.8  |
|      |                  |                                                              | 384    | 836.52         | 23.3          | 23.3  | 24.8   | 24.8  |
|      |                  |                                                              | 777    | 848.31         | 23.3          | 23.3  | 24.8   | 24.8  |
|      |                  | RC3 SO32<br>(+F-SCH)                                         | 1013   | 824.70         | 23.3          | 23.3  | 24.8   | 24.8  |
|      |                  |                                                              | 384    | 836.52         | 23.3          | 23.3  | 24.8   | 24.8  |
|      |                  |                                                              | 777    | 848.31         | 23.3          | 23.3  | 24.8   | 24.8  |
|      | Max Power (dBm)  |                                                              |        |                | 23.3          | 23.3  | 24.8   | 24.8  |
|      | 1xAdvanced       | Fwd11/Rvs8<br>SO75 (Loopback)                                | 1013   | 824.70         | 23.2          | 23.2  | 24.8   | 24.8  |
|      |                  |                                                              | 384    | 836.52         | 23.3          | 23.3  | 24.8   | 24.8  |
|      |                  |                                                              | 777    | 848.31         | 23.3          | 23.3  | 24.8   | 24.8  |
|      | Max Power (dBm)  |                                                              |        |                | 23.3          | 23.3  | 24.8   | 24.8  |
|      | 1xEVDO<br>Rel. 0 | FTAP Rate: 307.2 kbps(2 slot, QPSK)<br>RTAP Rate: 153.6 kbps | 1013   | 824.70         | 23.2          | 23.2  | 24.8   | 24.8  |
|      |                  |                                                              | 384    | 836.52         | 23.3          | 23.3  | 24.8   | 24.8  |
|      |                  |                                                              | 777    | 848.31         | 23.3          | 23.3  | 24.8   | 24.8  |
|      | Max Power (dBm)  |                                                              |        |                | 23.3          | 23.3  | 24.8   | 24.8  |
|      | 1xEVDO<br>Rev. A | FETAP: 307.2k, QPSK/ ACK<br>RETAP: 4096                      | 1013   | 824.70         | 23.3          | 23.3  | 24.8   | 24.8  |
|      |                  |                                                              | 384    | 836.52         | 23.2          | 23.2  | 24.8   | 24.8  |
|      |                  |                                                              | 777    | 848.31         | 23.3          | 23.3  | 24.7   | 24.7  |

**CDMA BC1 Measured Results**

| Band | Mode             |                                                              | Ch No. | Freq.<br>(MHz) | Avg Pwr (dBm) |       |        |       |
|------|------------------|--------------------------------------------------------------|--------|----------------|---------------|-------|--------|-------|
|      |                  |                                                              |        |                | MODE A        |       | MODE B |       |
|      |                  |                                                              |        |                | UAT 1         | LAT 1 | UAT 1  | LAT 1 |
| BC 1 | Max Power (dBm)  |                                                              |        |                | 19.5          | 21.3  | 25.3   | 23.3  |
|      | 1xRTT            | RC1 SO55<br>(Loopback)                                       | 25     | 1851.25        | 19.3          | 21.1  | 25.2   | 23.2  |
|      |                  |                                                              | 600    | 1880.00        | 19.4          | 21.2  | 25.2   | 23.2  |
|      |                  |                                                              | 1175   | 1908.75        | 19.5          | 21.2  | 25.2   | 23.2  |
|      |                  | RC3 SO55<br>(Loopback)                                       | 25     | 1851.25        | 19.3          | 21.1  | 25.2   | 23.2  |
|      |                  |                                                              | 600    | 1880.00        | 19.4          | 21.2  | 25.2   | 23.2  |
|      |                  |                                                              | 1175   | 1908.75        | 19.5          | 21.2  | 25.2   | 23.2  |
|      |                  | RC3 SO32<br>(+F-SCH)                                         | 25     | 1851.25        | 19.3          | 21.1  | 25.2   | 23.2  |
|      |                  |                                                              | 600    | 1880.00        | 19.4          | 21.2  | 25.2   | 23.3  |
|      |                  |                                                              | 1175   | 1908.75        | 19.5          | 21.2  | 25.2   | 23.3  |
|      | Max Power (dBm)  |                                                              |        |                | 19.5          | 21.3  | 25.3   | 23.3  |
|      | 1xAdvanced       | Fwd11/Rvs8<br>SO75 (Loopback)                                | 25     | 1851.25        | 19.3          | 21.1  | 25.3   | 23.3  |
|      |                  |                                                              | 600    | 1880.00        | 19.4          | 21.2  | 25.3   | 23.3  |
|      |                  |                                                              | 1175   | 1908.75        | 19.5          | 21.2  | 25.3   | 23.3  |
|      | Max Power (dBm)  |                                                              |        |                | 19.5          | 21.3  | 25.3   | 23.3  |
|      | 1xEVDO<br>Rel. 0 | FTAP Rate: 307.2 kbps(2 slot, QPSK)<br>RTAP Rate: 153.6 kbps | 25     | 1851.25        | 19.3          | 21.1  | 25.2   | 23.3  |
|      |                  |                                                              | 600    | 1880.00        | 19.4          | 21.2  | 25.2   | 23.3  |
|      |                  |                                                              | 1175   | 1908.75        | 19.5          | 21.2  | 25.2   | 23.3  |
|      | Max Power (dBm)  |                                                              |        |                | 19.5          | 21.3  | 25.3   | 23.3  |
|      | 1xEVDO<br>Rev. A | FETAP: 307.2k, QPSK/ ACK<br>RETAP: 4096                      | 25     | 1851.25        | 19.4          | 21.2  | 25.2   | 23.2  |
|      |                  |                                                              | 600    | 1880.00        | 19.4          | 21.2  | 25.3   | 23.3  |
|      |                  |                                                              | 1175   | 1908.75        | 19.5          | 21.2  | 25.3   | 23.3  |

**CDMA BC10 Measured Results**

| Band  | Mode             |                                                              | Ch No. | Freq.<br>(MHz) | Avg Pwr (dBm) |       |        |       |
|-------|------------------|--------------------------------------------------------------|--------|----------------|---------------|-------|--------|-------|
|       |                  |                                                              |        |                | MODE A        |       | MODE B |       |
|       |                  |                                                              |        |                | UAT 1         | LAT 1 | UAT 1  | LAT 1 |
| BC 10 | Max Power (dBm)  |                                                              |        |                | 23.3          | 23.3  | 24.8   | 24.8  |
|       | 1xRTT            | RC1 SO55<br>(Loopback)                                       | 476    | 817.90         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  |                                                              | 580    | 820.50         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  |                                                              | 684    | 823.10         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  | RC3 SO55<br>(Loopback)                                       | 476    | 817.90         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  |                                                              | 580    | 820.50         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  |                                                              | 684    | 823.10         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  | RC3 SO32<br>(+F-SCH)                                         | 476    | 817.90         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  |                                                              | 580    | 820.50         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  |                                                              | 684    | 823.10         | 23.2          | 23.2  | 24.8   | 24.8  |
|       | Max Power (dBm)  |                                                              |        |                | 23.3          | 23.3  | 24.8   | 24.8  |
|       | 1xAdvanced       | Fwd11/Rvs8<br>SO75 (Loopback)                                | 476    | 817.90         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  |                                                              | 580    | 820.50         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  |                                                              | 684    | 823.10         | 23.2          | 23.2  | 24.8   | 24.8  |
|       | Max Power (dBm)  |                                                              |        |                | 23.3          | 23.3  | 24.8   | 24.8  |
|       | 1xEVDO<br>Rel. 0 | FTAP Rate: 307.2 kbps(2 slot, QPSK)<br>RTAP Rate: 153.6 kbps | 476    | 817.90         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  |                                                              | 580    | 820.50         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  |                                                              | 684    | 823.10         | 23.2          | 23.2  | 24.8   | 24.8  |
|       | Max Power (dBm)  |                                                              |        |                | 23.3          | 23.3  | 24.8   | 24.8  |
|       | 1xEVDO<br>Rev. A | FETAP: 307.2k, QPSK/ ACK<br>RETAP: 4096                      | 476    | 817.90         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  |                                                              | 580    | 820.50         | 23.2          | 23.2  | 24.8   | 24.8  |
|       |                  |                                                              | 684    | 823.10         | 23.2          | 23.2  | 24.8   | 24.8  |

## 9.4. LTE

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

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 1, 2 and 3**

| Modulation | Channel bandwidth / Transmission bandwidth ( $N_{RB}$ ) |         |       |        |        |        | 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      |
| 64 QAM     | ≤ 5                                                     | ≤ 4     | ≤ 8   | ≤ 12   | ≤ 16   | ≤ 18   | ≤ 2      |
| 64 QAM     | > 5                                                     | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 3      |
| 256 QAM    | ≥ 1                                                     |         |       |        |        |        | ≤ 5      |

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of "NS\_01".

Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)

| Network Signalling value | Requirements (subclause)       | E-UTRA Band                      | Channel bandwidth (MHz) | Resources Blocks ( $N_{RB}$ )                  | A-MPR (dB)   |
|--------------------------|--------------------------------|----------------------------------|-------------------------|------------------------------------------------|--------------|
| NS_01                    | 6.6.2.1.1                      | Table 5.5-1                      | 1.4, 3, 5, 10, 15, 20   | Table 5.6-1                                    | N/A          |
| NS_03                    | 6.6.2.2.1                      | 2, 4, 10, 23, 25, 35, 36, 66, 70 | 3                       | >5                                             | ≤ 1          |
|                          |                                |                                  | 5                       | >6                                             | ≤ 1          |
|                          |                                |                                  | 10                      | >6                                             | ≤ 1          |
|                          |                                |                                  | 15                      | >8                                             | ≤ 1          |
|                          |                                |                                  | 20                      | >10                                            | ≤ 1          |
| NS_04                    | 6.6.2.2.2, 6.6.3.3.19          | 41                               | 5, 10, 15, 20           | Table 6.2.4-4, Table 6.2.4-4a                  |              |
| NS_05                    | 6.6.3.3.1                      | 1                                | 10, 15, 20              | ≥ 50 (NOTE 1)                                  | ≤ 1 (NOTE 1) |
|                          |                                |                                  | 15, 20                  | Table 6.2.4-18 (NOTE 2)                        |              |
|                          |                                | 65 (NOTE 3)                      | 10, 15, 20              | ≥ 50                                           | ≤ 1 (NOTE 1) |
|                          |                                |                                  | 15, 20                  | Table 6.2.4-18 (NOTE 2)                        |              |
| NS_06                    | 6.6.2.2.3                      | 12, 13, 14, 17                   | 1.4, 3, 5, 10           | Table 5.6-1                                    | N/A          |
| NS_07                    | 6.6.2.2.3                      | 13                               | 10                      | Table 6.2.4-2                                  |              |
| NS_08                    | 6.6.3.3.3                      | 19                               | 10, 15                  | > 44                                           | ≤ 3          |
| NS_09                    | 6.6.3.3.4                      | 21                               | 10, 15                  | > 40                                           | ≤ 1          |
|                          |                                |                                  |                         | > 55                                           | ≤ 2          |
| NS_10                    |                                | 20                               | 15, 20                  | Table 6.2.4-3                                  |              |
| NS_11                    | 6.6.2.2.1, 6.6.3.3.13          | 23                               | 1.4, 3, 5, 10, 15, 20   | Table 6.2.4-5                                  |              |
| NS_12                    | 6.6.3.3.5                      | 26                               | 1.4, 3, 5, 10, 15       | Table 6.2.4-6                                  |              |
| NS_13                    | 6.6.3.3.6                      | 26                               | 5                       | Table 6.2.4-7                                  |              |
| NS_14                    | 6.6.3.3.7                      | 26                               | 10, 15                  | Table 6.2.4-8                                  |              |
| NS_15                    | 6.6.3.3.8                      | 26                               | 1.4, 3, 5, 10, 15       | Table 6.2.4-9, Table 6.2.4-10                  |              |
| NS_16                    | 6.6.3.3.9                      | 27                               | 3, 5, 10                | Table 6.2.4-11, Table 6.2.4-12, Table 6.2.4-13 |              |
| NS_17                    | 6.6.3.3.10                     | 28                               | 5, 10                   | Table 5.6-1                                    | N/A          |
| NS_18                    | 6.6.3.3.11                     | 28                               | 5                       | ≥ 2                                            | ≤ 1          |
|                          |                                |                                  | 10, 15, 20              | ≥ 1                                            | ≤ 4          |
| NS_19                    | 6.6.3.3.12                     | 44                               | 10, 15, 20              | Table 6.2.4-14                                 |              |
| NS_20                    | 6.2.2, 6.6.2.2.1, 6.6.3.3.14   | 23                               | 5, 10, 15, 20           | Table 6.2.4-15                                 |              |
|                          | 6.6.3.3.15                     |                                  |                         |                                                |              |
| NS_21                    | 6.6.2.2.1, 6.6.3.3.16          | 30                               | 5, 10                   | Table 6.2.4-16                                 |              |
| NS_22                    | 6.6.3.3.16                     | 42, 43                           | 5, 10, 15, 20           | Table 6.2.4-17                                 |              |
| NS_23                    | 6.6.3.3.17                     | 42, 43                           | 5, 10, 15, 20           | N/A                                            |              |
| NS_24                    | 6.6.3.3.20                     | 65 (NOTE 4)                      | 5, 10, 15, 20           | Table 6.2.4-19                                 |              |
| NS_25                    | 6.6.3.3.21                     | 65 (NOTE 4)                      | 5, 10, 15, 20           | Table 6.2.4-20                                 |              |
| NS_26                    | 6.6.3.3.22                     | 68                               | 10, 15                  | Table 6.2.4-21                                 |              |
| NS_27                    | 6.6.2.2.5, 6.6.3.3.23          | 48                               | 5, 10, 15, 20           | Table 6.2.4-22                                 |              |
| NS_28                    | 6.2.2A, 6.6.3.3.24             | 46 (NOTE 5)                      | 20                      | Table 6.2.4-23                                 |              |
| NS_29                    | 6.2.2A, 6.6.2.3.1a, 6.6.3.3.25 | 46 (NOTE 5)                      | 20                      | Table 6.2.4-24                                 |              |
| NS_30                    | 6.2.2A, 6.6.3.3.26             | 46 (NOTE 5)                      | 20                      | Table 6.2.4-25                                 |              |
| NS_31                    | 6.2.2A, 6.6.3.3.27             | 46 (NOTE 5)                      | 20                      | Table 6.2.4-26                                 |              |
| NS_32                    | -                              | -                                | -                       | -                                              | -            |

NOTE 1: Applicable when the lower edge of the assigned E-UTRA UL channel bandwidth frequency is larger than or equal to the upper edge of PHS band (1915.7 MHz) + 4 MHz + the channel BW assigned, where channel BW is as defined in subclause 5.6. A-MPR for

operations below this frequency is not covered in this version of specifications except for the channel assignments in NOTE2 as the emissions requirement in 6.6.3.3.1 may not be met. For 10MHz channel bandwidth whose carrier frequency is larger than or equal to 1945 MHz or 15 MHz channel bandwidth whose carrier frequency is larger than or equal to 1947.5 MHz, no A-MPR applies.

NOTE 2: Applicable when carrier frequency is 1932.5 MHz for 15MHz channel bandwidth or 1930 MHz for 20MHz channel bandwidth case.

NOTE 3: Applicable when the E-UTRA carrier is within 1920-1980 MHz.

NOTE 4: Applicable when the upper edge of the channel bandwidth frequency is greater than 1980MHz.

NOTE 5: Applicable only for an LAA SCell configured in Band 46.

**LTE Band 2 Average Power (dBm) Measured Results**

SAR for LTE Band 2 (Frequency range: 1850 - 1910 MHz) is covered by LTE Band 25 (Frequency range: 1850 - 1915 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

**LTE Band 4 Average Power (dBm) Measured Results**

SAR for LTE Band 4 (Frequency range: 1710 - 1755 MHz) is covered by LTE Band 66 (Frequency range: 1710 - 1780 MHz) due to overlapping frequency range, same maximum tune-up limit and channel bandwidths from 20MHz to 5MHz. Therefore, LTE Band 4 at 3MHz and 1.4MHz bandwidths have been measured.

| BW<br>(MHz)     | Mode  | RB Allocation | RB<br>offset | MODE A        |           |           |           |               |           |           |           | MODE B        |           |           |           |               |           |           |           |
|-----------------|-------|---------------|--------------|---------------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|
|                 |       |               |              | Target<br>MPR | UAT 1     |           |           | Target<br>MPR | LAT 1     |           |           | Target<br>MPR | UAT 1     |           |           | Target<br>MPR | LAT 1     |           |           |
|                 |       |               |              |               | I7115 MHz | I7325 MHz | I7535 MHz |               | I7115 MHz | I7325 MHz | I7535 MHz |               | I7115 MHz | I7325 MHz | I7535 MHz |               | I7115 MHz | I7325 MHz | I7535 MHz |
| Max Power (dBm) |       |               |              | 21.8          |           |           | 22.2      |               |           | 25.3      |           |               | 24.5      |           |           |               |           |           |           |
| 3               | QPSK  | 1             | 0            | 0.0           | 218       | 217       | 217       | 0.0           | 22.1      | 22.2      | 22.0      | 0.0           | 25.1      | 25.1      | 25.1      | 0.0           | 24.4      | 24.1      | 24.1      |
|                 |       | 1             | 8            | 0.0           | 216       | 216       | 218       | 0.0           | 22.1      | 22.1      | 22.0      | 0.0           | 25.2      | 25.0      | 25.0      | 0.0           | 24.1      | 24.2      | 24.3      |
|                 |       | 1             | 14           | 0.0           | 217       | 218       | 217       | 0.0           | 22.2      | 22.0      | 22.1      | 0.0           | 25.3      | 25.2      | 25.1      | 0.0           | 24.2      | 24.3      | 24.3      |
|                 |       | 8             | 0            | 0.6           | 211       | 211       | 210       | 10            | 210       | 211       | 211       | 10            | 24.1      | 24.3      | 24.3      | 0.2           | 24.3      | 24.1      | 24.0      |
|                 |       | 8             | 4            | 0.6           | 20.9      | 211       | 212       | 10            | 211       | 212       | 212       | 10            | 24.3      | 24.2      | 24.1      | 0.2           | 24.2      | 24.0      | 24.1      |
|                 |       | 8             | 7            | 0.6           | 210       | 210       | 211       | 10            | 210       | 211       | 211       | 10            | 24.2      | 24.1      | 24.0      | 0.2           | 24.0      | 24.1      | 24.3      |
|                 | 16QAM | 15            | 0            | 0.6           | 210       | 210       | 212       | 10            | 212       | 212       | 212       | 10            | 24.2      | 24.1      | 24.2      | 0.2           | 24.2      | 24.1      | 24.2      |
|                 |       | 1             | 0            | 0.6           | 211       | 212       | 211       | 10            | 211       | 211       | 211       | 10            | 24.3      | 24.3      | 24.3      | 0.2           | 24.1      | 24.1      | 24.2      |
|                 |       | 1             | 8            | 0.6           | 20.9      | 210       | 211       | 10            | 211       | 211       | 210       | 10            | 24.0      | 24.2      | 24.0      | 0.2           | 24.1      | 24.2      | 24.0      |
|                 |       | 1             | 14           | 0.6           | 210       | 211       | 211       | 10            | 211       | 212       | 211       | 10            | 24.1      | 24.1      | 24.0      | 0.2           | 24.1      | 24.2      | 24.0      |
|                 |       | 8             | 0            | 1.6           | 20.1      | 20.2      | 20.2      | 2.0           | 20.2      | 20.1      | 20.2      | 2.0           | 23.2      | 23.1      | 23.2      | 1.2           | 23.1      | 23.3      | 23.1      |
|                 |       | 8             | 4            | 1.6           | 20.1      | 20.0      | 20.0      | 2.0           | 20.2      | 20.1      | 20.1      | 2.0           | 23.1      | 23.1      | 23.1      | 1.2           | 23.0      | 23.2      | 23.3      |
|                 | 64QAM | 8             | 7            | 1.6           | 20.1      | 20.1      | 20.1      | 2.0           | 20.1      | 20.1      | 20.2      | 2.0           | 23.1      | 23.1      | 23.2      | 1.2           | 23.1      | 23.1      | 23.3      |
|                 |       | 15            | 0            | 1.6           | 20.1      | 20.2      | 20.0      | 2.0           | 20.0      | 20.1      | 20.1      | 2.0           | 23.0      | 23.2      | 23.0      | 1.2           | 23.3      | 23.0      | 23.3      |
|                 |       | 1             | 0            | 1.6           | 20.1      | 20.1      | 20.0      | 2.0           | 20.1      | 20.1      | 20.2      | 2.0           | 23.2      | 23.2      | 23.2      | 1.2           | 23.1      | 23.1      | 23.3      |
|                 |       | 1             | 8            | 1.6           | 20.2      | 20.0      | 20.1      | 2.0           | 20.1      | 20.0      | 20.1      | 2.0           | 23.1      | 23.0      | 23.1      | 1.2           | 23.3      | 23.1      | 23.2      |
|                 |       | 1             | 14           | 1.6           | 20.1      | 20.1      | 20.1      | 2.0           | 20.1      | 20.1      | 20.2      | 2.0           | 23.3      | 23.1      | 23.3      | 1.2           | 23.0      | 23.2      | 23.1      |
|                 |       | 8             | 0            | 2.6           | 19.9      | 19.2      | 19.1      | 3.0           | 19.0      | 19.0      | 19.0      | 3.0           | 22.1      | 22.1      | 22.0      | 2.2           | 22.0      | 22.2      | 22.3      |
| 14              | QPSK  | 8             | 4            | 2.6           | 19.0      | 19.2      | 19.2      | 3.0           | 19.0      | 19.2      | 19.0      | 3.0           | 22.0      | 22.1      | 22.0      | 2.2           | 22.2      | 22.3      | 22.0      |
|                 |       | 8             | 7            | 2.6           | 19.1      | 19.0      | 19.0      | 3.0           | 19.1      | 19.0      | 19.2      | 3.0           | 22.0      | 22.1      | 22.0      | 2.2           | 22.1      | 22.0      | 22.1      |
|                 |       | 15            | 0            | 2.6           | 19.2      | 19.0      | 19.2      | 3.0           | 19.1      | 19.1      | 19.2      | 3.0           | 22.0      | 22.1      | 22.3      | 2.2           | 22.1      | 22.1      | 22.2      |
|                 |       | 1             | 0            | 0.0           | 216       | 217       | 217       | 0.0           | 22.1      | 22.1      | 22.0      | 0.0           | 25.1      | 25.2      | 25.1      | 0.0           | 24.2      | 24.5      | 24.1      |
|                 |       | 1             | 2            | 0.0           | 216       | 216       | 218       | 0.0           | 22.1      | 22.0      | 22.2      | 0.0           | 25.1      | 25.1      | 25.2      | 0.0           | 24.4      | 24.3      | 24.3      |
|                 |       | 1             | 5            | 0.0           | 218       | 216       | 216       | 0.0           | 22.2      | 22.1      | 22.0      | 0.0           | 25.2      | 25.3      | 25.2      | 0.0           | 24.3      | 24.1      | 24.3      |
|                 | 16QAM | 3             | 0            | 0.0           | 215       | 217       | 216       | 0.0           | 22.1      | 22.1      | 22.1      | 0.0           | 25.3      | 25.1      | 25.2      | 0.0           | 24.5      | 24.3      | 24.1      |
|                 |       | 3             | 1            | 0.0           | 216       | 217       | 217       | 0.0           | 22.1      | 22.1      | 22.1      | 0.0           | 25.1      | 25.2      | 25.2      | 0.0           | 24.4      | 24.3      | 24.4      |
|                 |       | 3             | 2            | 0.0           | 216       | 216       | 216       | 0.0           | 22.0      | 22.0      | 22.0      | 0.0           | 25.3      | 25.1      | 25.2      | 0.0           | 24.2      | 24.2      | 24.3      |
|                 |       | 6             | 0            | 0.6           | 211       | 20.9      | 210       | 10            | 211       | 211       | 210       | 10            | 24.1      | 24.3      | 24.3      | 0.2           | 24.1      | 24.0      | 24.1      |
|                 |       | 1             | 0            | 0.6           | 211       | 210       | 211       | 10            | 210       | 210       | 212       | 10            | 24.0      | 24.3      | 24.2      | 0.2           | 24.3      | 24.3      | 24.3      |
|                 |       | 1             | 2            | 0.6           | 211       | 210       | 211       | 10            | 211       | 211       | 212       | 10            | 24.1      | 24.3      | 24.0      | 0.2           | 24.1      | 24.1      | 24.0      |
|                 | 64QAM | 1             | 5            | 0.6           | 212       | 212       | 212       | 10            | 211       | 212       | 212       | 10            | 24.2      | 24.1      | 24.1      | 0.2           | 24.2      | 24.2      | 24.2      |
|                 |       | 3             | 0            | 0.6           | 212       | 210       | 20.9      | 10            | 211       | 210       | 211       | 10            | 24.2      | 24.2      | 24.2      | 0.2           | 24.1      | 24.1      | 24.1      |
|                 |       | 3             | 1            | 0.6           | 210       | 210       | 211       | 10            | 210       | 210       | 211       | 10            | 24.2      | 24.1      | 24.2      | 0.2           | 24.3      | 24.2      | 24.3      |
| 3               |       | 2             | 0.6          | 210           | 211       | 210       | 10        | 211           | 211       | 210       | 10        | 24.2          | 24.0      | 24.2      | 0.2       | 24.0          | 24.1      | 24.0      |           |
| 6               |       | 0             | 1.6          | 20.1          | 20.1      | 20.2      | 2.0       | 20.1          | 20.1      | 20.0      | 2.0       | 23.2          | 23.1      | 23.1      | 1.2       | 23.0          | 23.1      | 23.1      |           |
| 1               |       | 0             | 1.6          | 20.0          | 20.0      | 20.1      | 2.0       | 20.0          | 20.1      | 20.0      | 2.0       | 23.2          | 23.0      | 23.3      | 1.2       | 23.2          | 23.1      | 23.1      |           |
| 64QAM           | 1     | 2             | 1.6          | 20.1          | 20.1      | 20.0      | 2.0       | 20.2          | 20.1      | 20.1      | 2.0       | 23.3          | 23.3      | 23.1      | 1.2       | 23.2          | 23.1      | 23.1      |           |
|                 | 1     | 5             | 1.6          | 20.1          | 20.2      | 20.1      | 2.0       | 20.1          | 20.0      | 20.0      | 2.0       | 23.3          | 23.1      | 23.1      | 1.2       | 23.1          | 23.2      | 23.1      |           |
|                 | 3     | 0             | 1.6          | 20.2          | 20.0      | 20.0      | 2.0       | 20.0          | 20.2      | 20.1      | 2.0       | 23.0          | 23.2      | 23.1      | 1.2       | 23.3          | 23.1      | 23.0      |           |
|                 | 3     | 1             | 1.6          | 20.1          | 20.0      | 20.2      | 2.0       | 20.1          | 20.1      | 20.2      | 2.0       | 23.3          | 23.1      | 23.1      | 1.2       | 23.2          | 23.3      | 23.0      |           |
|                 | 3     | 2             | 1.6          | 20.1          | 20.1      | 20.1      | 2.0       | 20.0          | 20.2      | 20.1      | 2.0       | 23.1          | 23.2      | 23.2      | 1.2       | 23.1          | 23.1      | 23.2      |           |
|                 | 6     | 0             | 2.6          | 19.0          | 19.2      | 18.9      | 3.0       | 19.2          | 19.1      | 19.2      | 3.0       | 22.1          | 22.0      | 22.2      | 2.2       | 22.1          | 22.1      | 22.1      |           |

**LTE Band 5 Average Power (dBm) Measured Results**

SAR for LTE Band 5 (Frequency range: 824 - 849 MHz) is covered by LTE Band 26 (Frequency range: 814 – 849 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

**LTE Band 7 Average Power (dBm) Measured Results**

| Band          | BW<br>(MHz) | Mode            | RB<br>Allocation | RB<br>offset | MODE A        |          |          |          |               |          |          |          | MODE B        |          |          |          |               |          |          |          |      |      |
|---------------|-------------|-----------------|------------------|--------------|---------------|----------|----------|----------|---------------|----------|----------|----------|---------------|----------|----------|----------|---------------|----------|----------|----------|------|------|
|               |             |                 |                  |              | Target<br>MPR | UAT 1    |          |          | Target<br>MPR | LAT 1    |          |          | Target<br>MPR | UAT 1    |          |          | Target<br>MPR | LAT 1    |          |          |      |      |
|               |             |                 |                  |              |               | 2510 MHz | 2535 MHz | 2560 MHz |               | 2510 MHz | 2535 MHz | 2560 MHz |               | 2510 MHz | 2535 MHz | 2560 MHz |               | 2510 MHz | 2535 MHz | 2560 MHz |      |      |
| LTE<br>Band 7 | 20          | Max Power (dBm) |                  | 20.3         |               |          |          | 20.8     |               |          |          | 25.3     |               |          |          | 22.0     |               |          |          |          |      |      |
|               |             | QPSK            | 1                | 0            | 0.0           | 20.3     | 20.3     | 20.3     | 0.0           | 20.8     | 20.8     | 20.8     | 0.0           | 25.0     | 25.0     | 25.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 1                | 49           | 0.0           | 20.3     | 20.3     | 20.3     | 0.0           | 20.8     | 20.8     | 20.8     | 0.0           | 25.3     | 25.3     | 25.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 1                | 99           | 0.0           | 20.3     | 20.3     | 20.3     | 0.0           | 20.8     | 20.8     | 20.8     | 0.0           | 25.3     | 25.3     | 25.1     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 50               | 0            | 0.0           | 20.3     | 20.3     | 20.3     | 0.0           | 20.8     | 20.8     | 20.8     | 1.0           | 24.3     | 24.0     | 24.0     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 50               | 24           | 0.0           | 20.3     | 20.3     | 20.3     | 0.0           | 20.8     | 20.8     | 20.8     | 1.0           | 24.3     | 24.3     | 24.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 50               | 49           | 0.0           | 20.3     | 20.3     | 20.3     | 0.0           | 20.8     | 20.8     | 20.8     | 1.0           | 24.2     | 24.3     | 24.2     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             | 100             | 0                | 0.0          | 20.3          | 20.3     | 20.3     | 0.0      | 20.8          | 20.8     | 20.8     | 1.0      | 24.2          | 24.3     | 24.0     | 0.0      | 22.0          | 22.0     | 22.0     |          |      |      |
|               |             | 16QAM           | 1                | 0            | 0.0           | 20.3     | 20.3     | 20.3     | 0.0           | 20.7     | 20.8     | 20.8     | 1.0           | 24.3     | 24.2     | 24.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 1                | 49           | 0.0           | 20.2     | 20.3     | 20.3     | 0.0           | 20.8     | 20.8     | 20.8     | 1.0           | 24.2     | 24.3     | 24.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 1                | 99           | 0.0           | 20.3     | 20.3     | 20.2     | 0.0           | 20.8     | 20.6     | 20.8     | 1.0           | 24.3     | 24.3     | 24.0     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 50               | 0            | 0.2           | 20.1     | 20.1     | 20.1     | 0.7           | 20.1     | 19.0     | 20.1     | 2.0           | 23.3     | 23.3     | 23.1     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 50               | 24           | 0.2           | 20.1     | 20.1     | 20.1     | 0.7           | 20.1     | 20.1     | 20.1     | 2.0           | 23.3     | 23.3     | 23.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 50               | 49           | 0.2           | 20.1     | 20.0     | 20.1     | 0.7           | 20.0     | 20.1     | 20.1     | 2.0           | 23.2     | 23.1     | 23.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             | 64QAM           | 100              | 0            | 0.2           | 20.1     | 20.1     | 20.1     | 0.7           | 20.1     | 20.1     | 19.0     | 2.0           | 23.3     | 23.3     | 23.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 1                | 0            | 0.2           | 20.1     | 20.1     | 20.0     | 0.7           | 20.1     | 20.1     | 20.1     | 2.0           | 23.3     | 23.3     | 23.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 1                | 49           | 0.2           | 20.0     | 20.1     | 20.1     | 0.7           | 20.1     | 20.0     | 20.1     | 2.0           | 23.3     | 23.2     | 23.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 1                | 99           | 0.2           | 20.1     | 20.1     | 20.1     | 0.7           | 20.1     | 20.1     | 20.1     | 2.0           | 23.3     | 23.3     | 23.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               |             |                 | 50               | 0            | 1.2           | 19.1     | 19.1     | 19.1     | 1.7           | 19.1     | 19.1     | 19.1     | 3.0           | 22.3     | 22.3     | 22.1     | 0.2           | 21.5     | 21.1     | 21.0     |      |      |
|               |             |                 | 50               | 24           | 1.2           | 19.0     | 19.1     | 19.1     | 1.7           | 19.1     | 19.0     | 19.1     | 3.0           | 22.3     | 22.2     | 22.3     | 0.2           | 21.3     | 21.4     | 21.5     |      |      |
|               |             | LTE<br>Band 7   | 15               | QPSK         | 50            | 49       | 1.2      | 19.1     | 19.1          | 19.0     | 1.7      | 19.0     | 19.1          | 18.9     | 3.0      | 22.1     | 22.3          | 22.3     | 0.2      | 21.4     | 21.8 | 21.6 |
|               |             |                 |                  |              | 100           | 0        | 1.2      | 19.1     | 19.1          | 19.1     | 1.7      | 19.1     | 19.1          | 19.1     | 3.0      | 22.3     | 22.3          | 22.3     | 0.2      | 21.6     | 21.2 | 21.4 |
| 16QAM         | 1           |                 |                  |              | 0             | 0.0      | 20.3     | 20.3     | 20.3          | 0.0      | 20.8     | 20.8     | 20.8          | 0.0      | 25.2     | 25.3     | 25.3          | 0.0      | 22.0     | 22.0     | 22.0 |      |
|               | 1           |                 |                  |              | 36            | 0.0      | 20.3     | 20.3     | 20.3          | 0.0      | 20.8     | 20.8     | 20.8          | 0.0      | 25.2     | 25.3     | 25.1          | 0.0      | 22.0     | 22.0     | 22.0 |      |
|               | 1           |                 |                  |              | 74            | 0.0      | 20.3     | 20.3     | 20.3          | 0.0      | 20.8     | 20.8     | 20.8          | 0.0      | 25.0     | 25.1     | 25.0          | 0.0      | 22.0     | 22.0     | 22.0 |      |
|               | 36          |                 |                  |              | 0             | 0.0      | 20.3     | 20.1     | 20.3          | 0.0      | 20.8     | 20.8     | 20.8          | 1.0      | 24.1     | 24.0     | 24.3          | 0.0      | 22.0     | 22.0     | 22.0 |      |
|               | 36          |                 |                  | 18           | 0.0           | 20.0     | 20.3     | 20.3     | 0.0           | 20.8     | 20.8     | 20.7     | 1.0           | 24.1     | 24.1     | 24.1     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               | 36          |                 |                  | 37           | 0.0           | 20.3     | 20.3     | 20.3     | 0.0           | 20.8     | 20.8     | 20.8     | 1.0           | 24.3     | 24.3     | 24.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
| 64QAM         | 75          |                 |                  | 0            | 0.0           | 20.3     | 20.3     | 20.3     | 0.0           | 20.6     | 20.8     | 20.8     | 1.0           | 24.0     | 24.2     | 24.1     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               | 1           |                 |                  | 0            | 0.0           | 20.3     | 20.0     | 20.3     | 0.0           | 20.8     | 20.8     | 20.8     | 1.0           | 24.2     | 24.0     | 24.0     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               | 1           |                 |                  | 36           | 0.0           | 20.3     | 20.3     | 20.3     | 0.0           | 20.8     | 20.8     | 20.8     | 1.0           | 24.0     | 24.2     | 24.1     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               | 1           |                 |                  | 74           | 0.0           | 20.3     | 20.3     | 20.3     | 0.0           | 20.8     | 20.8     | 20.6     | 1.0           | 24.2     | 24.2     | 24.0     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               | 36          |                 |                  | 0            | 0.2           | 19.4     | 19.2     | 19.9     | 0.7           | 19.8     | 19.5     | 19.9     | 2.0           | 23.1     | 23.2     | 23.2     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               | 36          |                 |                  | 18           | 0.2           | 19.3     | 19.5     | 19.9     | 0.7           | 19.5     | 19.2     | 19.5     | 2.0           | 23.1     | 23.2     | 23.3     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
| 64QAM         | 36          |                 |                  | 37           | 0.2           | 19.4     | 19.0     | 19.4     | 0.7           | 19.7     | 19.5     | 19.1     | 2.0           | 23.2     | 23.2     | 23.2     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               | 75          |                 |                  | 0            | 0.2           | 19.1     | 19.8     | 19.6     | 0.7           | 19.1     | 19.9     | 19.3     | 2.0           | 23.1     | 23.3     | 23.1     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               | 1           |                 |                  | 0            | 0.2           | 19.3     | 19.5     | 19.1     | 0.7           | 19.3     | 19.3     | 19.6     | 2.0           | 23.3     | 23.2     | 23.2     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               | 1           |                 |                  | 36           | 0.2           | 19.3     | 19.2     | 19.7     | 0.7           | 19.7     | 19.4     | 19.6     | 2.0           | 23.1     | 23.3     | 23.0     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               | 1           |                 |                  | 74           | 0.2           | 19.6     | 19.2     | 19.3     | 0.7           | 19.8     | 19.6     | 19.0     | 2.0           | 23.3     | 23.1     | 23.2     | 0.0           | 22.0     | 22.0     | 22.0     |      |      |
|               | 36          |                 |                  | 0            | 1.2           | 18.8     | 18.9     | 18.9     | 1.7           | 19.0     | 19.1     | 19.0     | 3.0           | 22.1     | 22.0     | 22.3     | 0.2           | 21.2     | 21.4     | 21.0     |      |      |
| 64QAM         | 36          |                 |                  | 18           | 1.2           | 19.0     | 19.1     | 19.1     | 1.7           | 19.1     | 19.0     | 19.1     | 3.0           | 22.2     | 22.2     | 22.1     | 0.2           | 21.7     | 21.2     | 21.4     |      |      |
|               | 36          |                 |                  | 37           | 1.2           | 19.0     | 19.1     | 19.0     | 1.7           | 18.9     | 19.0     | 19.0     | 3.0           | 22.2     | 22.2     | 22.2     | 0.2           | 21.8     | 21.4     | 21.7     |      |      |
|               | 75          | 0               | 1.2              | 18.9         | 19.0          | 19.1     | 1.7      | 18.9     | 19.0          | 19.0     | 3.0      | 22.2     | 22.1          | 22.3     | 0.2      | 21.0     | 21.1          | 21.0     |          |          |      |      |

**LTE Band 7 Average Power (dBm) Measured Results (continued)**

| Band          | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MODE A        |            |          |            |               |            |          |            | MODE B        |            |          |            |               |            |          |            |
|---------------|-------------|-------|------------------|--------------|---------------|------------|----------|------------|---------------|------------|----------|------------|---------------|------------|----------|------------|---------------|------------|----------|------------|
|               |             |       |                  |              | Target<br>MPR | UAT 1      |          |            | Target<br>MPR | LAT 1      |          |            | Target<br>MPR | UAT 1      |          |            | Target<br>MPR | LAT 1      |          |            |
|               |             |       |                  |              |               | 2505 MHz   | 2535 MHz | 2565 MHz   |               | 2505 MHz   | 2535 MHz | 2565 MHz   |               | 2505 MHz   | 2535 MHz | 2565 MHz   |               | 2505 MHz   | 2535 MHz | 2565 MHz   |
| LTE<br>Band 7 | 10          | QPSK  | 1                | 0            | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 0.0           | 25.2       | 25.2     | 25.2       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 24           | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 0.0           | 25.2       | 25.1     | 25.0       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 49           | 0.0           | 20.2       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 0.0           | 25.2       | 25.2     | 25.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 25               | 0            | 0.0           | 20.3       | 20.3     | 20.1       | 0.0           | 20.6       | 20.6     | 20.8       | 1.0           | 24.2       | 24.2     | 24.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 25               | 12           | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 1.0           | 24.0       | 24.0     | 24.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 25               | 24           | 0.0           | 20.3       | 20.2     | 20.3       | 0.0           | 20.8       | 20.8     | 20.7       | 1.0           | 24.2       | 24.2     | 24.2       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             | 16QAM | 50               | 0            | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 1.0           | 24.1       | 24.1     | 24.2       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 0            | 0.0           | 20.2       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 1.0           | 24.2       | 24.1     | 24.3       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 24           | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.6       | 20.8     | 20.8       | 1.0           | 24.2       | 24.2     | 24.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 49           | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 1.0           | 24.3       | 24.3     | 24.2       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 25               | 0            | 0.2           | 19.3       | 19.1     | 19.7       | 0.0           | 20.8       | 20.8     | 20.8       | 2.0           | 23.3       | 23.3     | 23.2       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 25               | 12           | 0.2           | 19.2       | 19.6     | 19.5       | 0.7           | 20.0       | 19.4     | 19.5       | 2.0           | 23.1       | 23.2     | 23.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             | 64QAM | 25               | 24           | 0.2           | 19.8       | 19.1     | 19.5       | 0.7           | 19.4       | 19.6     | 19.1       | 2.0           | 23.2       | 23.3     | 23.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 50               | 0            | 0.2           | 19.1       | 19.3     | 19.7       | 0.7           | 19.3       | 19.1     | 20.0       | 2.0           | 23.1       | 23.1     | 23.0       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 0            | 0.2           | 19.2       | 19.7     | 20.0       | 0.7           | 20.0       | 19.8     | 19.1       | 2.0           | 23.2       | 23.1     | 23.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 24           | 0.2           | 19.4       | 19.8     | 20.0       | 0.7           | 19.4       | 19.4     | 19.2       | 2.0           | 23.2       | 23.1     | 23.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 49           | 0.2           | 20.0       | 19.0     | 19.4       | 0.7           | 19.9       | 19.7     | 19.3       | 2.0           | 23.2       | 23.3     | 23.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 25               | 0            | 1.2           | 18.8       | 19.1     | 19.1       | 1.7           | 19.0       | 19.1     | 19.0       | 3.0           | 22.2       | 22.1     | 22.3       | 0.2           | 21.0       | 21.3     | 21.2       |
|               |             |       | 25               | 12           | 1.2           | 18.8       | 19.1     | 18.9       | 1.7           | 19.1       | 19.0     | 19.0       | 3.0           | 22.2       | 22.1     | 22.3       | 0.2           | 21.5       | 21.3     | 21.1       |
|               |             |       | 25               | 24           | 1.2           | 19.1       | 19.1     | 19.0       | 1.7           | 19.0       | 19.1     | 19.0       | 3.0           | 22.1       | 22.1     | 22.2       | 0.2           | 21.1       | 21.6     | 21.2       |
|               |             | 50    | 0                | 1.2          | 19.1          | 18.8       | 19.1     | 1.7        | 18.9          | 18.9       | 19.0     | 3.0        | 22.1          | 22.2       | 22.1     | 0.2        | 21.5          | 21.8       | 21.1     |            |
| Band          | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MODE A        |            |          |            |               |            |          |            | MODE B        |            |          |            |               |            |          |            |
|               |             |       |                  |              | Target<br>MPR | UAT 1      |          |            | Target<br>MPR | LAT 1      |          |            | Target<br>MPR | UAT 1      |          |            | Target<br>MPR | LAT 1      |          |            |
|               |             |       |                  |              |               | 2502.5 MHz | 2535 MHz | 2567.5 MHz |               | 2502.5 MHz | 2535 MHz | 2567.5 MHz |               | 2502.5 MHz | 2535 MHz | 2567.5 MHz |               | 2502.5 MHz | 2535 MHz | 2567.5 MHz |
| LTE<br>Band 7 | 5           | QPSK  | 1                | 0            | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 0.0           | 25.1       | 25.1     | 25.2       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 12           | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 0.0           | 25.1       | 25.1     | 25.2       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 24           | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 0.0           | 25.1       | 25.1     | 25.3       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 12               | 0            | 0.0           | 20.3       | 20.1     | 20.3       | 0.0           | 20.6       | 20.8     | 20.8       | 1.0           | 24.1       | 24.1     | 24.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 12               | 7            | 0.0           | 20.2       | 20.3     | 20.3       | 0.0           | 20.8       | 20.6     | 20.8       | 1.0           | 24.3       | 24.2     | 24.3       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 12               | 13           | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 1.0           | 24.2       | 24.1     | 24.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             | 16QAM | 25               | 0            | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 1.0           | 24.2       | 24.1     | 24.0       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 0            | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.6       | 1.0           | 24.0       | 24.1     | 24.2       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 12           | 0.0           | 20.3       | 20.3     | 20.3       | 0.0           | 20.8       | 20.8     | 20.8       | 1.0           | 24.1       | 24.1     | 24.2       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 24           | 0.0           | 20.3       | 20.3     | 20.1       | 0.0           | 20.8       | 20.8     | 20.8       | 1.0           | 24.2       | 24.0     | 24.2       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 12               | 0            | 0.2           | 19.8       | 19.1     | 19.6       | 0.7           | 19.2       | 19.6     | 20.1       | 2.0           | 23.1       | 23.3     | 23.0       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 12               | 7            | 0.2           | 19.1       | 19.3     | 19.8       | 0.7           | 19.3       | 19.4     | 19.4       | 2.0           | 23.3       | 23.3     | 23.0       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             | 64QAM | 12               | 13           | 0.2           | 19.9       | 19.9     | 19.8       | 0.7           | 19.7       | 19.7     | 20.0       | 2.0           | 23.0       | 23.0     | 23.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 25               | 0            | 0.2           | 19.8       | 19.2     | 19.2       | 0.7           | 19.1       | 19.1     | 19.0       | 2.0           | 23.3       | 23.2     | 23.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 0            | 0.2           | 19.7       | 19.2     | 19.1       | 0.7           | 19.9       | 19.6     | 20.0       | 2.0           | 23.1       | 23.0     | 23.1       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 12           | 0.2           | 20.0       | 19.9     | 19.3       | 0.7           | 19.7       | 19.4     | 19.4       | 2.0           | 23.3       | 23.2     | 23.0       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 1                | 24           | 0.2           | 19.1       | 20.0     | 19.5       | 0.7           | 19.0       | 19.6     | 19.3       | 2.0           | 23.1       | 23.1     | 23.3       | 0.0           | 22.0       | 22.0     | 22.0       |
|               |             |       | 12               | 0            | 1.2           | 19.0       | 19.0     | 19.0       | 1.7           | 19.0       | 18.9     | 18.9       | 3.0           | 22.2       | 22.1     | 22.0       | 0.2           | 21.1       | 21.3     | 21.1       |
|               |             |       | 12               | 7            | 1.2           | 19.1       | 19.0     | 19.0       | 1.7           | 18.9       | 19.0     | 19.1       | 3.0           | 22.2       | 22.3     | 22.2       | 0.2           | 21.8       | 21.8     | 21.5       |
|               |             |       | 12               | 13           | 1.2           | 19.1       | 19.1     | 19.1       | 1.7           | 19.1       | 19.1     | 19.0       | 3.0           | 22.1       | 22.1     | 22.0       | 0.2           | 21.3       | 21.6     | 21.5       |
|               |             | 25    | 0                | 1.2          | 18.9          | 19.1       | 18.9     | 1.7        | 18.9          | 19.1       | 19.1     | 3.0        | 22.0          | 22.1       | 22.0     | 0.2        | 21.5          | 21.5       | 21.4     |            |

**LTE Band 12 Average Power (dBm) Measured Results**

| Band           | BW<br>(MHz) | Mode  | RB Allocation   | RB<br>offset | MODE A        |           |           |           |               |           |           |           | MODE B        |           |           |           |               |           |           |           |
|----------------|-------------|-------|-----------------|--------------|---------------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|---------------|-----------|-----------|-----------|
|                |             |       |                 |              | Target<br>MPR | UAT 1     |           |           | Target<br>MPR | LAT 1     |           |           | Target<br>MPR | UAT 1     |           |           | Target<br>MPR | LAT 1     |           |           |
|                |             |       |                 |              |               |           |           |           |               |           |           |           |               |           |           |           |               |           |           |           |
|                |             |       | Max Power (dBm) |              |               | 24.0      |           |           |               | 24.0      |           |           |               | 24.8      |           |           |               | 24.8      |           |           |
| LTE<br>Band 12 | 10          | QPSK  | 1               | 0            | 0             |           | 24.0      |           | 0             |           | 24.0      |           | 0             |           | 24.8      |           | 0             |           | 24.8      |           |
|                |             |       | 1               | 24           | 0             |           | 24.0      |           | 0             |           | 24.0      |           | 0             |           | 24.8      |           | 0             |           | 24.8      |           |
|                |             |       | 1               | 49           | 0             |           | 24.0      |           | 0             |           | 24.0      |           | 0             |           | 24.8      |           | 0             |           | 24.8      |           |
|                |             |       | 25              | 0            | 1             |           | 23.0      |           | 1             |           | 23.0      |           | 1             |           | 23.8      |           | 1             |           | 23.8      |           |
|                |             |       | 25              | 12           | 1             |           | 23.0      |           | 1             |           | 23.0      |           | 1             |           | 23.8      |           | 1             |           | 23.8      |           |
|                |             |       | 25              | 24           | 1             |           | 23.0      |           | 1             |           | 23.0      |           | 1             |           | 23.8      |           | 1             |           | 23.8      |           |
|                |             | 16QAM | 50              | 0            | 1             |           | 23.0      |           | 1             |           | 23.0      |           | 1             |           | 23.7      |           | 1             |           | 23.7      |           |
|                |             |       | 1               | 0            | 1             |           | 22.8      |           | 1             |           | 22.8      |           | 1             |           | 23.0      |           | 1             |           | 23.0      |           |
|                |             |       | 1               | 24           | 1             |           | 23.0      |           | 1             |           | 23.0      |           | 1             |           | 22.9      |           | 1             |           | 22.9      |           |
|                |             |       | 1               | 49           | 1             |           | 22.9      |           | 1             |           | 22.9      |           | 1             |           | 23.0      |           | 1             |           | 23.0      |           |
|                |             |       | 25              | 0            | 2             |           | 21.9      |           | 2             |           | 21.9      |           | 2             |           | 22.7      |           | 2             |           | 22.7      |           |
|                |             |       | 25              | 12           | 2             |           | 21.9      |           | 2             |           | 21.9      |           | 2             |           | 22.0      |           | 2             |           | 22.0      |           |
|                |             | 64QAM | 25              | 24           | 2             |           | 21.8      |           | 2             |           | 21.8      |           | 2             |           | 22.4      |           | 2             |           | 22.4      |           |
|                |             |       | 50              | 0            | 2             |           | 21.8      |           | 2             |           | 21.8      |           | 2             |           | 22.7      |           | 2             |           | 22.7      |           |
|                |             |       | 1               | 0            | 2             |           | 21.8      |           | 2             |           | 21.8      |           | 2             |           | 22.0      |           | 2             |           | 22.0      |           |
|                |             |       | 1               | 24           | 2             |           | 21.9      |           | 2             |           | 21.9      |           | 2             |           | 22.3      |           | 2             |           | 22.3      |           |
|                |             |       | 1               | 49           | 2             |           | 22.0      |           | 2             |           | 22.0      |           | 2             |           | 22.1      |           | 2             |           | 22.1      |           |
|                |             |       | 25              | 0            | 3             |           | 20.9      |           | 3             |           | 20.9      |           | 3             |           | 21.4      |           | 3             |           | 21.4      |           |
|                |             |       | 25              | 12           | 3             |           | 20.9      |           | 3             |           | 20.9      |           | 3             |           | 21.4      |           | 3             |           | 21.4      |           |
|                |             |       | 25              | 24           | 3             |           | 20.9      |           | 3             |           | 20.9      |           | 3             |           | 21.0      |           | 3             |           | 21.0      |           |
|                |             |       | 50              | 0            | 3             |           | 20.8      |           | 3             |           | 20.8      |           | 3             |           | 21.8      |           | 3             |           | 21.8      |           |
|                |             |       |                 |              |               |           |           |           |               |           |           |           |               |           |           |           |               |           |           |           |
| Band           | BW<br>(MHz) | Mode  | RB Allocation   | RB<br>offset | MODE A        |           |           |           |               |           |           |           | MODE B        |           |           |           |               |           |           |           |
|                |             |       |                 |              | Target<br>MPR | UAT 1     |           |           | Target<br>MPR | LAT 1     |           |           | Target<br>MPR | UAT 1     |           |           | Target<br>MPR | LAT 1     |           |           |
|                |             |       |                 |              |               | 701.5 MHz | 707.5 MHz | 713.5 MHz |               | 701.5 MHz | 707.5 MHz | 713.5 MHz |               | 701.5 MHz | 707.5 MHz | 713.5 MHz |               | 701.5 MHz | 707.5 MHz | 713.5 MHz |
| LTE<br>Band 12 | 5           | QPSK  | 1               | 0            | 0             | 23.9      | 23.8      | 24.0      | 0             | 23.9      | 23.8      | 24.0      | 0             | 24.8      | 24.4      | 24.7      | 0             | 24.8      | 24.4      | 24.7      |
|                |             |       | 1               | 12           | 0             | 23.9      | 24.0      | 23.8      | 0             | 23.9      | 24.0      | 23.8      | 0             | 24.2      | 24.5      | 24.5      | 0             | 24.2      | 24.5      | 24.5      |
|                |             |       | 1               | 24           | 0             | 23.8      | 24.0      | 24.0      | 0             | 23.8      | 24.0      | 24.0      | 0             | 24.2      | 24.0      | 24.3      | 0             | 24.2      | 24.0      | 24.3      |
|                |             |       | 12              | 0            | 1             | 22.9      | 22.9      | 22.8      | 1             | 22.9      | 22.9      | 22.8      | 1             | 23.1      | 23.3      | 23.1      | 1             | 23.1      | 23.3      | 23.1      |
|                |             |       | 12              | 7            | 1             | 22.8      | 22.9      | 23.0      | 1             | 22.8      | 22.9      | 23.0      | 1             | 23.4      | 23.6      | 23.7      | 1             | 23.4      | 23.6      | 23.7      |
|                |             |       | 12              | 13           | 1             | 22.9      | 22.8      | 23.0      | 1             | 22.9      | 22.8      | 23.0      | 1             | 23.7      | 23.4      | 23.3      | 1             | 23.7      | 23.4      | 23.3      |
|                |             | 16QAM | 25              | 0            | 1             | 22.9      | 22.8      | 22.8      | 1             | 22.9      | 22.8      | 22.8      | 1             | 23.5      | 23.3      | 23.6      | 1             | 23.5      | 23.3      | 23.6      |
|                |             |       | 1               | 0            | 1             | 23.0      | 22.8      | 22.9      | 1             | 23.0      | 22.8      | 22.9      | 1             | 23.4      | 23.1      | 23.1      | 1             | 23.4      | 23.1      | 23.1      |
|                |             |       | 1               | 12           | 1             | 23.0      | 22.8      | 23.0      | 1             | 23.0      | 22.8      | 23.0      | 1             | 23.0      | 23.0      | 23.3      | 1             | 23.0      | 23.0      | 23.3      |
|                |             |       | 1               | 24           | 1             | 22.8      | 23.0      | 22.9      | 1             | 22.8      | 23.0      | 22.9      | 1             | 23.6      | 23.3      | 23.2      | 1             | 23.6      | 23.3      | 23.2      |
|                |             |       | 12              | 0            | 2             | 21.9      | 21.9      | 21.8      | 2             | 21.9      | 21.9      | 21.8      | 2             | 22.6      | 22.6      | 22.7      | 2             | 22.6      | 22.6      | 22.7      |
|                |             |       | 12              | 7            | 2             | 22.0      | 21.9      | 21.9      | 2             | 22.0      | 21.9      | 21.9      | 2             | 22.1      | 22.6      | 22.4      | 2             | 22.1      | 22.6      | 22.4      |
|                |             | 64QAM | 12              | 13           | 2             | 21.9      | 21.9      | 21.9      | 2             | 21.9      | 21.9      | 21.9      | 2             | 22.1      | 22.0      | 22.7      | 2             | 22.1      | 22.0      | 22.7      |
|                |             |       | 25              | 0            | 2             | 21.9      | 21.9      | 22.0      | 2             | 21.9      | 21.9      | 22.0      | 2             | 22.6      | 22.4      | 21.9      | 2             | 22.6      | 22.4      | 21.9      |
|                |             |       | 1               | 0            | 2             | 21.9      | 21.9      | 21.8      | 2             | 21.9      | 21.9      | 21.8      | 2             | 22.7      | 22.1      | 22.3      | 2             | 22.7      | 22.1      | 22.3      |
|                |             |       | 1               | 12           | 2             | 22.0      | 21.9      | 21.9      | 2             | 22.0      | 21.9      | 21.9      | 2             | 22.0      | 22.5      | 21.9      | 2             | 22.0      | 22.5      | 21.9      |
|                |             |       | 1               | 24           | 2             | 21.9      | 21.9      | 21.9      | 2             | 21.9      | 21.9      | 21.9      | 2             | 22.0      | 22.4      | 22.5      | 2             | 22.0      | 22.4      | 22.5      |
|                |             |       | 12              | 0            | 3             | 20.9      | 21.0      | 21.0      | 3             | 20.9      | 21.0      | 21.0      | 3             | 21.7      | 21.5      | 21.4      | 3             | 21.7      | 21.5      | 21.4      |
|                |             |       | 12              | 7            | 3             | 20.8      | 21.0      | 20.9      | 3             | 20.8      | 21.0      | 20.9      | 3             | 21.0      | 21.1      | 20.9      | 3             | 21.0      | 21.1      | 20.9      |
|                |             |       | 12              | 13           | 3             | 20.9      | 20.9      | 20.9      | 3             | 20.9      | 20.9      | 20.9      | 3             | 21.3      | 21.2      | 21.0      | 3             | 21.3      | 21.2      | 21.0      |
|                |             |       | 25              | 0            | 3             | 20.9      | 20.8      | 20.9      | 3             | 20.9      | 20.8      | 20.9      | 3             | 21.0      | 21.3      | 21.8      | 3             | 21.0      | 21.3      | 21.8      |

**Note(s):**

10 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices

**LTE Band 12 Average Power (dBm) Measured Results (continued)**

| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MODE A     |           |           |           |            |           | MODE B    |           |            |           |           |           |
|-------------|----------|-------|---------------|-----------|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|
|             |          |       |               |           | Target MPR | UAT 1     |           |           | Target MPR | LAT 1     |           |           | Target MPR | UAT 1     |           |           |
|             |          |       |               |           |            | 700.5 MHz | 707.5 MHz | 714.5 MHz |            | 700.5 MHz | 707.5 MHz | 714.5 MHz |            | 700.5 MHz | 707.5 MHz | 714.5 MHz |
| LTE Band 12 | 3        | QPSK  | 1             | 0         | 0          | 23.9      | 23.9      | 24.0      | 0          | 23.9      | 23.9      | 24.0      | 0          | 24.0      | 24.2      | 24.5      |
|             |          |       | 1             | 8         | 0          | 23.9      | 23.9      | 23.8      | 0          | 23.9      | 23.9      | 23.8      | 0          | 24.1      | 24.3      | 23.9      |
|             |          |       | 1             | 14        | 0          | 24.0      | 23.9      | 23.9      | 0          | 24.0      | 23.9      | 23.9      | 0          | 24.4      | 24.2      | 24.3      |
|             |          |       | 8             | 0         | 1          | 22.9      | 22.8      | 22.9      | 1          | 22.9      | 22.8      | 22.9      | 1          | 23.8      | 23.0      | 23.6      |
|             |          |       | 8             | 4         | 1          | 23.0      | 22.8      | 22.9      | 1          | 23.0      | 22.8      | 22.9      | 1          | 23.3      | 23.2      | 23.7      |
|             |          |       | 8             | 7         | 1          | 22.8      | 22.8      | 22.8      | 1          | 22.8      | 22.8      | 22.8      | 1          | 23.3      | 22.9      | 23.2      |
|             |          |       | 15            | 0         | 1          | 22.9      | 22.8      | 23.0      | 1          | 22.9      | 22.8      | 23.0      | 1          | 23.7      | 23.2      | 23.3      |
|             |          |       | 1             | 0         | 1          | 22.9      | 23.0      | 23.0      | 1          | 22.9      | 23.0      | 23.0      | 1          | 23.6      | 23.5      | 23.1      |
|             |          | 16QAM | 1             | 8         | 1          | 22.9      | 23.0      | 22.9      | 1          | 22.9      | 23.0      | 22.9      | 1          | 23.6      | 23.1      | 23.5      |
|             |          |       | 1             | 14        | 1          | 22.9      | 22.9      | 22.9      | 1          | 22.9      | 22.9      | 22.9      | 1          | 23.7      | 22.9      | 23.0      |
|             |          |       | 8             | 0         | 2          | 22.0      | 22.0      | 21.9      | 2          | 22.0      | 22.0      | 21.9      | 2          | 22.7      | 22.8      | 22.2      |
|             |          |       | 8             | 4         | 2          | 21.9      | 21.9      | 21.9      | 2          | 21.9      | 21.9      | 21.9      | 2          | 22.0      | 22.2      | 22.7      |
|             |          |       | 8             | 7         | 2          | 22.0      | 21.8      | 21.9      | 2          | 22.0      | 21.8      | 21.9      | 2          | 22.4      | 21.9      | 22.1      |
|             |          |       | 15            | 0         | 2          | 21.9      | 21.9      | 21.8      | 2          | 21.9      | 21.9      | 21.8      | 2          | 22.1      | 22.7      | 22.0      |
|             |          |       | 1             | 0         | 2          | 21.8      | 21.8      | 22.0      | 2          | 21.8      | 21.8      | 22.0      | 2          | 22.6      | 22.1      | 22.6      |
|             |          |       | 1             | 8         | 2          | 22.0      | 21.8      | 21.9      | 2          | 22.0      | 21.8      | 21.9      | 2          | 22.1      | 21.9      | 22.1      |
|             |          | 64QAM | 1             | 14        | 2          | 21.9      | 21.9      | 21.9      | 2          | 21.9      | 21.9      | 21.9      | 2          | 22.6      | 22.3      | 22.5      |
|             |          |       | 8             | 0         | 3          | 20.9      | 20.9      | 20.9      | 3          | 20.9      | 20.9      | 20.9      | 3          | 21.5      | 21.7      | 21.1      |
|             |          |       | 8             | 4         | 3          | 20.9      | 20.8      | 20.8      | 3          | 20.9      | 20.8      | 20.8      | 3          | 21.4      | 21.3      | 21.1      |
|             |          |       | 8             | 7         | 3          | 20.9      | 21.0      | 20.8      | 3          | 20.9      | 21.0      | 20.8      | 3          | 21.3      | 21.2      | 21.1      |
|             |          |       | 15            | 0         | 3          | 21.0      | 20.9      | 20.8      | 3          | 21.0      | 20.9      | 20.8      | 3          | 21.7      | 20.9      | 21.4      |
|             |          |       | 1             | 0         | 0          | 23.9      | 23.9      | 23.9      | 0          | 23.9      | 23.9      | 23.9      | 0          | 24.7      | 24.1      | 24.6      |
|             |          |       | 1             | 2         | 0          | 23.9      | 23.9      | 24.0      | 0          | 23.9      | 23.9      | 24.0      | 0          | 24.6      | 24.5      | 24.7      |
|             |          |       | 1             | 5         | 0          | 23.9      | 23.9      | 24.0      | 0          | 23.9      | 23.9      | 24.0      | 0          | 24.7      | 24.5      | 24.0      |
|             |          |       | 3             | 0         | 0          | 23.9      | 23.8      | 23.9      | 0          | 23.9      | 23.8      | 23.9      | 0          | 24.6      | 24.6      | 24.5      |
|             |          |       | 3             | 1         | 0          | 23.8      | 24.0      | 24.0      | 0          | 23.8      | 24.0      | 24.0      | 0          | 24.3      | 24.8      | 24.4      |
|             |          |       | 3             | 2         | 0          | 23.8      | 23.9      | 23.9      | 0          | 23.8      | 23.9      | 23.9      | 0          | 24.8      | 24.3      | 24.4      |
|             |          |       | 6             | 0         | 1          | 23.0      | 22.9      | 22.8      | 1          | 23.0      | 22.9      | 22.8      | 1          | 23.3      | 23.3      | 23.5      |
|             |          | 16QAM | 1             | 0         | 1          | 22.9      | 22.9      | 22.8      | 1          | 22.9      | 22.9      | 22.8      | 1          | 22.9      | 23.3      | 23.0      |
|             |          |       | 1             | 2         | 1          | 22.9      | 22.8      | 23.0      | 1          | 22.9      | 22.8      | 23.0      | 1          | 23.7      | 23.2      | 23.0      |
|             |          |       | 1             | 5         | 1          | 22.9      | 23.0      | 22.9      | 1          | 22.9      | 23.0      | 22.9      | 1          | 23.0      | 23.6      | 22.9      |
|             |          |       | 3             | 0         | 1          | 23.0      | 22.9      | 22.9      | 1          | 23.0      | 22.9      | 22.9      | 1          | 23.6      | 23.6      | 23.4      |
|             |          |       | 3             | 1         | 1          | 23.0      | 22.9      | 22.8      | 1          | 23.0      | 22.9      | 22.8      | 1          | 23.6      | 23.5      | 23.0      |
|             |          |       | 3             | 2         | 1          | 22.9      | 23.0      | 22.9      | 1          | 22.9      | 23.0      | 22.9      | 1          | 23.3      | 23.1      | 23.5      |
|             |          |       | 6             | 0         | 2          | 21.9      | 21.9      | 21.9      | 2          | 21.9      | 21.9      | 21.9      | 2          | 22.4      | 22.6      | 22.4      |
|             |          |       | 1             | 0         | 2          | 21.9      | 21.8      | 21.9      | 2          | 21.9      | 21.8      | 21.9      | 2          | 22.5      | 22.1      | 22.5      |
|             |          | 64QAM | 1             | 2         | 2          | 22.0      | 21.8      | 21.9      | 2          | 22.0      | 21.8      | 21.9      | 2          | 21.9      | 22.7      | 22.4      |
|             |          |       | 1             | 5         | 2          | 22.0      | 21.9      | 21.8      | 2          | 22.0      | 21.9      | 21.8      | 2          | 22.0      | 21.9      | 22.8      |
|             |          |       | 3             | 0         | 2          | 21.9      | 21.8      | 21.9      | 2          | 21.9      | 21.8      | 21.9      | 2          | 22.7      | 22.2      | 22.6      |
|             |          |       | 3             | 1         | 2          | 21.9      | 21.8      | 22.0      | 2          | 21.9      | 21.8      | 22.0      | 2          | 21.9      | 22.1      | 22.3      |
|             |          |       | 3             | 2         | 2          | 21.9      | 21.8      | 21.9      | 2          | 21.9      | 21.8      | 21.9      | 2          | 22.4      | 22.1      | 22.7      |
|             |          |       | 6             | 0         | 3          | 20.8      | 21.0      | 20.9      | 3          | 20.8      | 21.0      | 20.9      | 3          | 21.5      | 21.7      | 21.6      |

**LTE Band 13 Average Power (dBm) Measured Results**

| Band           | BW<br>(MHz) | Mode            | RB<br>Allocation | RB<br>offset | MODE A        |       |         |               | MODE B |         |               |       |         |               |       |         |
|----------------|-------------|-----------------|------------------|--------------|---------------|-------|---------|---------------|--------|---------|---------------|-------|---------|---------------|-------|---------|
|                |             |                 |                  |              | Target<br>MPR | UAT 1 |         | Target<br>MPR | LAT 1  |         | Target<br>MPR | UAT 1 |         | Target<br>MPR | LAT 1 |         |
|                |             |                 |                  |              |               |       | 782 MHz |               |        | 782 MHz |               |       | 782 MHz |               |       | 782 MHz |
| LTE<br>Band 13 | 10          | Max Power (dBm) |                  |              |               | 24.0  |         | 24.0          |        | 24.8    |               | 24.8  |         |               |       |         |
|                |             |                 | 1                | 0            | 0             | 24.0  | 0       | 24.0          | 0      | 24.8    | 0             | 24.8  |         |               |       |         |
|                |             | QPSK            | 1                | 24           | 0             | 24.0  | 0       | 24.0          | 0      | 24.8    | 0             | 24.8  |         |               |       |         |
|                |             |                 | 1                | 49           | 0             | 24.0  | 0       | 24.0          | 0      | 24.8    | 0             | 24.8  |         |               |       |         |
|                |             |                 | 25               | 0            | 1             | 23.0  | 1       | 23.0          | 1      | 23.8    | 1             | 23.8  |         |               |       |         |
|                |             |                 | 25               | 12           | 1             | 23.0  | 1       | 23.0          | 1      | 23.8    | 1             | 23.8  |         |               |       |         |
|                |             |                 | 25               | 24           | 1             | 23.0  | 1       | 23.0          | 1      | 23.8    | 1             | 23.8  |         |               |       |         |
|                |             |                 | 50               | 0            | 1             | 23.0  | 1       | 23.0          | 1      | 23.8    | 1             | 23.8  |         |               |       |         |
|                |             | 16QAM           | 1                | 0            | 1             | 22.9  | 1       | 22.9          | 1      | 23.8    | 1             | 23.8  |         |               |       |         |
|                |             |                 | 1                | 24           | 1             | 22.9  | 1       | 22.8          | 1      | 23.5    | 1             | 23.5  |         |               |       |         |
|                |             |                 | 1                | 49           | 1             | 22.9  | 1       | 22.9          | 1      | 23.1    | 1             | 23.1  |         |               |       |         |
|                |             |                 | 25               | 0            | 2             | 21.9  | 2       | 21.9          | 2      | 22.2    | 2             | 22.2  |         |               |       |         |
|                |             |                 | 25               | 12           | 2             | 21.9  | 2       | 21.9          | 2      | 22.6    | 2             | 22.6  |         |               |       |         |
|                |             |                 | 25               | 24           | 2             | 22.0  | 2       | 22.0          | 2      | 22.1    | 2             | 22.1  |         |               |       |         |
|                |             | 64QAM           | 50               | 0            | 2             | 21.9  | 2       | 21.9          | 2      | 22.7    | 2             | 22.7  |         |               |       |         |
|                |             |                 | 1                | 0            | 2             | 21.9  | 2       | 21.9          | 2      | 22.2    | 2             | 22.2  |         |               |       |         |
|                |             |                 | 1                | 24           | 2             | 21.9  | 2       | 21.9          | 2      | 22.6    | 2             | 22.6  |         |               |       |         |
|                |             |                 | 1                | 49           | 2             | 22.0  | 2       | 22.0          | 2      | 21.9    | 2             | 21.9  |         |               |       |         |
|                |             |                 | 25               | 0            | 3             | 21.0  | 3       | 21.0          | 3      | 20.9    | 3             | 20.9  |         |               |       |         |
|                |             |                 | 25               | 12           | 3             | 21.0  | 3       | 21.0          | 3      | 21.5    | 3             | 21.5  |         |               |       |         |
|                |             |                 | 25               | 24           | 3             | 21.0  | 3       | 21.0          | 3      | 21.2    | 3             | 21.2  |         |               |       |         |
|                |             |                 | 50               | 0            | 3             | 21.0  | 3       | 21.0          | 3      | 21.3    | 3             | 21.3  |         |               |       |         |

| Band           | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MODE A        |       |         |               | MODE B |         |               |       |         |               |       |         |
|----------------|-------------|-------|------------------|--------------|---------------|-------|---------|---------------|--------|---------|---------------|-------|---------|---------------|-------|---------|
|                |             |       |                  |              | Target<br>MPR | UAT 1 |         | Target<br>MPR | LAT 1  |         | Target<br>MPR | UAT 1 |         | Target<br>MPR | LAT 1 |         |
|                |             |       |                  |              |               |       | 782 MHz |               |        | 782 MHz |               |       | 782 MHz |               |       | 782 MHz |
| LTE<br>Band 13 | 5           | QPSK  | 1                | 0            | 0             | 23.9  | 0       | 23.9          | 0      | 24.2    | 0             | 24.2  |         |               |       |         |
|                |             |       | 1                | 12           | 0             | 23.8  | 0       | 23.8          | 0      | 24.8    | 0             | 24.8  |         |               |       |         |
|                |             |       | 1                | 24           | 0             | 24.0  | 0       | 24.0          | 0      | 24.5    | 0             | 24.5  |         |               |       |         |
|                |             |       | 12               | 0            | 1             | 23.0  | 1       | 23.0          | 1      | 23.6    | 1             | 23.6  |         |               |       |         |
|                |             |       | 12               | 7            | 1             | 22.9  | 1       | 22.9          | 1      | 23.4    | 1             | 23.4  |         |               |       |         |
|                |             |       | 12               | 13           | 1             | 22.8  | 1       | 22.8          | 1      | 23.6    | 1             | 23.6  |         |               |       |         |
|                |             | 16QAM | 25               | 0            | 1             | 22.9  | 1       | 22.9          | 1      | 23.7    | 1             | 23.7  |         |               |       |         |
|                |             |       | 1                | 0            | 1             | 22.8  | 1       | 22.8          | 1      | 23.7    | 1             | 23.7  |         |               |       |         |
|                |             |       | 1                | 12           | 1             | 22.9  | 1       | 22.9          | 1      | 23.2    | 1             | 23.2  |         |               |       |         |
|                |             |       | 1                | 24           | 1             | 22.9  | 1       | 22.9          | 1      | 23.8    | 1             | 23.8  |         |               |       |         |
|                |             |       | 12               | 0            | 2             | 21.9  | 2       | 21.9          | 2      | 22.3    | 2             | 22.3  |         |               |       |         |
|                |             |       | 12               | 7            | 2             | 21.8  | 2       | 21.8          | 2      | 22.0    | 2             | 22.0  |         |               |       |         |
|                |             | 64QAM | 12               | 13           | 2             | 21.9  | 2       | 21.9          | 2      | 22.7    | 2             | 22.7  |         |               |       |         |
|                |             |       | 25               | 0            | 2             | 21.9  | 2       | 21.9          | 2      | 22.2    | 2             | 22.2  |         |               |       |         |
|                |             |       | 1                | 0            | 2             | 21.8  | 2       | 21.8          | 2      | 22.0    | 2             | 22.0  |         |               |       |         |
|                |             |       | 1                | 12           | 2             | 21.9  | 2       | 21.9          | 2      | 22.6    | 2             | 22.6  |         |               |       |         |
|                |             |       | 1                | 24           | 2             | 21.9  | 2       | 21.9          | 2      | 22.3    | 2             | 22.3  |         |               |       |         |
|                |             |       | 12               | 0            | 3             | 21.0  | 3       | 21.0          | 3      | 21.0    | 3             | 21.0  |         |               |       |         |
|                |             |       | 12               | 7            | 3             | 21.0  | 3       | 21.0          | 3      | 21.5    | 3             | 21.5  |         |               |       |         |
|                |             |       | 12               | 13           | 3             | 21.0  | 3       | 21.0          | 3      | 21.7    | 3             | 21.7  |         |               |       |         |
|                |             |       | 25               | 0            | 3             | 21.0  | 3       | 21.0          | 3      | 21.3    | 3             | 21.3  |         |               |       |         |

**Note(s):**

10/5 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices

**LTE Band 17 Average Power (dBm) Measured Results**

SAR for LTE Band 17 (Frequency range: 704 – 716 MHz) is covered by LTE Band 12 (Frequency range: 699 – 716 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

**LTE Band 25 Average Power (dBm) Measured Results**

| Band        | BW (MHz)               | Mode  | RB Allocation | RB offset | MODE A      |          |            |          |             |          |            | MODE B   |             |          |            |          |             |          |            |          |
|-------------|------------------------|-------|---------------|-----------|-------------|----------|------------|----------|-------------|----------|------------|----------|-------------|----------|------------|----------|-------------|----------|------------|----------|
|             |                        |       |               |           | Target MPR  | UAT 1    |            |          | Target MPR  | LAT 1    |            |          | Target MPR  | UAT 1    |            |          | Target MPR  | LAT 1    |            |          |
|             |                        |       |               |           |             | 1860 MHz | 1882.5 MHz | 1905 MHz |             | 1860 MHz | 1882.5 MHz | 1905 MHz |             | 1860 MHz | 1882.5 MHz | 1905 MHz |             | 1860 MHz | 1882.5 MHz | 1905 MHz |
| LTE Band 25 | <b>Max Power (dBm)</b> |       |               |           | <b>19.5</b> |          |            |          | <b>20.8</b> |          |            |          | <b>25.3</b> |          |            |          | <b>23.3</b> |          |            |          |
|             | 20                     | QPSK  | 1             | 0         | 0           | 19.5     | 19.5       | 19.5     | 0.0         | 20.8     | 20.8       | 20.8     | 0.0         | 25.3     | 25.3       | 25.3     | 0.0         | 23.2     | 23.2       | 23.3     |
|             |                        |       | 1             | 49        | 0           | 19.5     | 19.5       | 19.5     | 0.0         | 20.8     | 20.8       | 20.8     | 0.0         | 25.3     | 25.3       | 25.3     | 0.0         | 23.2     | 23.2       | 23.3     |
|             |                        |       | 1             | 99        | 0           | 19.5     | 19.5       | 19.5     | 0.0         | 20.8     | 20.8       | 20.8     | 0.0         | 25.3     | 25.3       | 25.3     | 0.0         | 23.2     | 23.2       | 23.3     |
|             |                        |       | 50            | 0         | 0           | 19.5     | 19.5       | 19.5     | 1.0         | 19.8     | 19.8       | 19.8     | 1.0         | 24.3     | 24.3       | 24.3     | 0.0         | 23.2     | 23.3       | 23.3     |
|             |                        |       | 50            | 24        | 0           | 19.5     | 19.5       | 19.5     | 1.0         | 19.8     | 19.8       | 19.8     | 1.0         | 24.3     | 24.3       | 24.3     | 0.0         | 23.2     | 23.3       | 23.3     |
|             |                        |       | 50            | 49        | 0           | 19.5     | 19.5       | 19.5     | 1.0         | 19.8     | 19.8       | 19.8     | 1.0         | 24.3     | 24.3       | 24.3     | 0.0         | 23.2     | 23.3       | 23.3     |
|             |                        | 16QAM | 100           | 0         | 0           | 19.5     | 19.5       | 19.5     | 1.0         | 19.5     | 19.5       | 19.5     | 1.0         | 24.3     | 24.3       | 24.3     | 0.0         | 23.2     | 23.3       | 23.3     |
|             |                        |       | 1             | 0         | 0           | 19.4     | 19.5       | 19.5     | 1.0         | 19.8     | 19.8       | 19.8     | 1.0         | 24.1     | 24.3       | 24.2     | 0.0         | 23.0     | 23.2       | 23.2     |
|             |                        |       | 1             | 49        | 0           | 19.5     | 19.5       | 19.5     | 1.0         | 19.5     | 19.8       | 19.7     | 1.0         | 24.1     | 24.0       | 24.0     | 0.0         | 23.1     | 23.2       | 23.1     |
|             |                        |       | 1             | 99        | 0           | 19.5     | 19.5       | 19.5     | 1.0         | 19.8     | 19.5       | 19.8     | 1.0         | 24.3     | 24.2       | 24.2     | 0.0         | 23.3     | 23.2       | 23.0     |
|             |                        |       | 50            | 0         | 0.7         | 18.8     | 18.7       | 18.8     | 2.0         | 18.8     | 18.8       | 18.8     | 2.0         | 23.1     | 23.3       | 23.2     | 0.0         | 23.1     | 23.2       | 23.1     |
|             |                        |       | 50            | 24        | 0.7         | 18.6     | 18.8       | 18.8     | 2.0         | 18.8     | 18.8       | 18.7     | 2.0         | 23.2     | 23.2       | 23.2     | 0.0         | 23.2     | 23.1       | 23.1     |
|             |                        | 64QAM | 50            | 49        | 0.7         | 18.8     | 18.8       | 18.6     | 2.0         | 18.6     | 18.8       | 18.8     | 2.0         | 23.2     | 23.1       | 23.2     | 0.0         | 23.0     | 23.0       | 23.1     |
|             |                        |       | 100           | 0         | 0.7         | 18.7     | 18.8       | 18.7     | 2.0         | 18.8     | 18.8       | 18.8     | 2.0         | 23.1     | 23.0       | 23.2     | 0.0         | 23.0     | 23.0       | 23.2     |
|             |                        |       | 1             | 0         | 0.7         | 18.8     | 18.7       | 18.8     | 2.0         | 18.8     | 18.7       | 18.8     | 2.0         | 23.1     | 23.2       | 23.1     | 0.0         | 23.1     | 23.3       | 23.1     |
|             |                        |       | 1             | 49        | 0.7         | 18.8     | 18.8       | 18.8     | 2.0         | 18.8     | 18.8       | 18.6     | 2.0         | 23.2     | 23.2       | 23.1     | 0.0         | 23.1     | 23.0       | 23.1     |
|             |                        |       | 1             | 99        | 0.7         | 18.8     | 18.8       | 18.8     | 2.0         | 18.8     | 18.8       | 18.8     | 2.0         | 23.1     | 23.0       | 23.1     | 0.0         | 23.1     | 23.1       | 23.1     |
|             |                        |       | 50            | 0         | 1.7         | 17.7     | 17.7       | 17.8     | 3.0         | 17.6     | 17.8       | 17.7     | 3.0         | 22.1     | 22.2       | 22.3     | 1.0         | 22.2     | 22.0       | 22.2     |
|             |                        | 16QAM | 50            | 24        | 1.7         | 17.8     | 17.8       | 17.7     | 3.0         | 17.8     | 17.8       | 17.8     | 3.0         | 22.0     | 22.2       | 22.3     | 1.0         | 22.3     | 22.0       | 22.2     |
|             |                        |       | 50            | 49        | 1.7         | 17.6     | 17.7       | 17.8     | 3.0         | 17.8     | 17.7       | 17.8     | 3.0         | 22.0     | 22.3       | 22.0     | 1.0         | 22.2     | 22.0       | 22.0     |
|             |                        |       | 100           | 0         | 1.7         | 17.8     | 17.8       | 17.7     | 3.0         | 17.8     | 17.8       | 17.8     | 3.0         | 22.0     | 22.2       | 22.1     | 1.0         | 22.1     | 22.1       | 22.2     |
|             |                        |       | 1             | 0         | 0.7         | 18.6     | 18.6       | 18.8     | 2.0         | 18.5     | 18.6       | 18.6     | 2.0         | 23.1     | 23.2       | 23.1     | 0.0         | 23.3     | 23.3       | 23.2     |
|             |                        |       | 1             | 36        | 0.7         | 18.6     | 18.7       | 18.8     | 2.0         | 18.8     | 18.7       | 18.6     | 2.0         | 23.2     | 23.0       | 23.1     | 0.0         | 23.2     | 23.0       | 23.2     |
|             |                        |       | 1             | 74        | 0.7         | 18.6     | 18.6       | 18.7     | 2.0         | 18.6     | 18.7       | 18.8     | 2.0         | 23.0     | 23.2       | 23.3     | 0.0         | 23.0     | 23.2       | 23.2     |
|             |                        | 64QAM | 36            | 0         | 1.7         | 17.6     | 17.6       | 17.7     | 3.0         | 17.6     | 17.6       | 17.7     | 3.0         | 22.2     | 22.2       | 22.2     | 1.0         | 22.3     | 22.2       | 22.1     |
|             |                        |       | 36            | 18        | 1.7         | 17.8     | 17.5       | 17.6     | 3.0         | 17.6     | 17.7       | 17.6     | 3.0         | 22.1     | 22.1       | 22.1     | 1.0         | 22.1     | 22.1       | 22.2     |
|             |                        |       | 36            | 37        | 1.7         | 17.7     | 17.7       | 17.5     | 3.0         | 17.5     | 17.5       | 17.6     | 3.0         | 22.2     | 22.1       | 22.1     | 1.0         | 22.2     | 22.0       | 22.1     |
|             |                        |       | 75            | 0         | 1.7         | 17.8     | 17.8       | 17.6     | 3.0         | 17.7     | 17.6       | 17.6     | 3.0         | 22.2     | 22.2       | 22.3     | 1.0         | 22.2     | 22.1       | 22.2     |

**LTE Band 25 Average Power (dBm) Measured Results (continued)**

| Band        | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MODE A        |          |            |          |               |          |            |          | MODE B        |          |            |          |               |          |            |          |
|-------------|-------------|-------|------------------|--------------|---------------|----------|------------|----------|---------------|----------|------------|----------|---------------|----------|------------|----------|---------------|----------|------------|----------|
|             |             |       |                  |              | Target<br>MPR | UAT 1    |            |          | Target<br>MPR | LAT 1    |            |          | Target<br>MPR | UAT 1    |            |          | Target<br>MPR | LAT 1    |            |          |
|             |             |       |                  |              |               | 1855 MHz | 1882.5 MHz | 1910 MHz |               | 1855 MHz | 1882.5 MHz | 1910 MHz |               | 1855 MHz | 1882.5 MHz | 1910 MHz |               | 1855 MHz | 1882.5 MHz | 1910 MHz |
| LTE Band 25 | 10          | QPSK  | 1                | 0            | 0             | 18.9     | 19.2       | 19.1     | 0.0           | 20.6     | 20.6       | 20.7     | 0.0           | 25.1     | 25.3       | 25.3     | 0.0           | 23.1     | 23.3       | 23.3     |
|             |             |       | 1                | 24           | 0             | 19.0     | 19.3       | 19.3     | 0.0           | 20.7     | 20.5       | 20.8     | 0.0           | 25.2     | 25.2       | 25.3     | 0.0           | 23.0     | 23.3       | 23.3     |
|             |             |       | 1                | 49           | 0             | 19.2     | 19.3       | 19.0     | 0.0           | 20.8     | 20.6       | 20.6     | 0.0           | 25.3     | 25.1       | 25.0     | 0.0           | 23.3     | 23.3       | 23.2     |
|             |             |       | 25               | 0            | 0             | 19.3     | 19.3       | 19.4     | 1.0           | 19.7     | 19.7       | 19.6     | 1.0           | 24.2     | 24.1       | 24.2     | 0.0           | 23.2     | 23.1       | 23.2     |
|             |             |       | 25               | 12           | 0             | 19.1     | 19.1       | 19.4     | 1.0           | 19.6     | 19.7       | 19.6     | 1.0           | 24.2     | 24.2       | 24.0     | 0.0           | 23.1     | 23.3       | 23.2     |
|             |             |       | 25               | 24           | 0             | 19.0     | 19.1       | 19.4     | 1.0           | 19.6     | 19.7       | 19.6     | 1.0           | 24.2     | 24.2       | 24.1     | 0.0           | 23.0     | 23.2       | 23.0     |
|             |             | 16QAM | 50               | 0            | 0             | 19.2     | 19.4       | 19.4     | 1.0           | 19.7     | 19.6       | 19.7     | 1.0           | 24.1     | 24.3       | 24.2     | 0.0           | 23.2     | 23.2       | 23.2     |
|             |             |       | 1                | 0            | 0             | 19.0     | 18.9       | 19.5     | 1.0           | 19.6     | 19.7       | 19.5     | 1.0           | 24.1     | 24.1       | 24.2     | 0.0           | 23.0     | 23.1       | 23.3     |
|             |             |       | 1                | 24           | 0             | 19.4     | 18.9       | 19.4     | 1.0           | 19.7     | 19.7       | 19.6     | 1.0           | 24.0     | 24.1       | 24.2     | 0.0           | 23.1     | 23.2       | 23.1     |
|             |             |       | 1                | 49           | 0             | 19.2     | 19.3       | 19.1     | 1.0           | 19.6     | 19.6       | 19.6     | 1.0           | 24.1     | 24.2       | 24.0     | 0.0           | 23.3     | 23.2       | 23.2     |
|             |             |       | 25               | 0            | 0.7           | 18.7     | 18.7       | 18.7     | 2.0           | 18.6     | 18.6       | 18.7     | 2.0           | 23.1     | 23.2       | 23.2     | 0.0           | 23.3     | 23.2       | 23.1     |
|             |             |       | 25               | 12           | 0.7           | 18.5     | 18.7       | 18.7     | 2.0           | 18.7     | 18.7       | 18.6     | 2.0           | 23.1     | 23.1       | 23.0     | 0.0           | 23.2     | 23.1       | 23.2     |
|             |             | 64QAM | 25               | 24           | 0.7           | 18.6     | 18.6       | 18.7     | 2.0           | 18.7     | 18.7       | 18.6     | 2.0           | 23.1     | 23.0       | 23.1     | 0.0           | 23.3     | 23.1       | 23.0     |
|             |             |       | 50               | 0            | 0.7           | 18.7     | 18.7       | 18.6     | 2.0           | 18.8     | 18.8       | 18.7     | 2.0           | 23.1     | 23.2       | 23.3     | 0.0           | 23.1     | 23.0       | 23.2     |
|             |             |       | 1                | 0            | 0.7           | 18.8     | 18.7       | 18.6     | 2.0           | 18.8     | 18.6       | 18.8     | 2.0           | 23.3     | 23.2       | 23.0     | 0.0           | 23.2     | 23.0       | 23.2     |
|             |             |       | 1                | 24           | 0.7           | 18.7     | 18.7       | 18.7     | 2.0           | 18.6     | 18.5       | 18.6     | 2.0           | 23.3     | 23.1       | 23.1     | 0.0           | 23.1     | 23.2       | 23.1     |
|             |             |       | 1                | 49           | 0.7           | 18.7     | 18.8       | 18.6     | 2.0           | 18.5     | 18.7       | 18.6     | 2.0           | 23.2     | 23.2       | 23.3     | 0.0           | 23.1     | 23.2       | 23.2     |
|             |             |       | 25               | 0            | 1.7           | 17.8     | 17.7       | 17.8     | 3.0           | 17.6     | 17.7       | 17.7     | 3.0           | 22.1     | 22.2       | 22.2     | 1.0           | 22.2     | 22.2       | 22.3     |
| 64QAM       | 25          | 12    | 1.7              | 17.6         | 17.5          | 17.6     | 3.0        | 17.7     | 17.7          | 17.7     | 3.0        | 22.1     | 22.1          | 22.1     | 1.0        | 22.2     | 22.1          | 22.1     |            |          |
|             | 25          | 24    | 1.7              | 17.7         | 17.6          | 17.6     | 3.0        | 17.6     | 17.7          | 17.8     | 3.0        | 22.2     | 22.2          | 22.1     | 1.0        | 22.0     | 22.0          | 22.2     |            |          |
|             | 50          | 0     | 1.7              | 17.6         | 17.8          | 17.6     | 3.0        | 17.6     | 17.8          | 17.6     | 3.0        | 22.1     | 22.1          | 22.2     | 1.0        | 22.1     | 22.2          | 22.1     |            |          |

| Band        | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MODE A        |            |            |            |               |            |            | MODE B     |               |            |            |            |               |            |            |            |
|-------------|-------------|-------|------------------|--------------|---------------|------------|------------|------------|---------------|------------|------------|------------|---------------|------------|------------|------------|---------------|------------|------------|------------|
|             |             |       |                  |              | Target<br>MPR | UAT 1      |            |            | Target<br>MPR | LAT 1      |            |            | Target<br>MPR | UAT 1      |            |            | Target<br>MPR | LAT 1      |            |            |
|             |             |       |                  |              |               | 1852.5 MHz | 1882.5 MHz | 1912.5 MHz |               | 1852.5 MHz | 1882.5 MHz | 1912.5 MHz |               | 1852.5 MHz | 1882.5 MHz | 1912.5 MHz |               | 1852.5 MHz | 1882.5 MHz | 1912.5 MHz |
| LTE Band 25 | 5           | QPSK  | 1                | 0            | 0             | 19.1       | 19.3       | 19.1       | 0.0           | 20.7       | 20.7       | 20.5       | 0.0           | 25.0       | 25.3       | 25.0       | 0.0           | 23.2       | 23.2       | 23.1       |
|             |             |       | 1                | 12           | 0             | 19.4       | 19.2       | 19.2       | 0.0           | 20.8       | 20.8       | 20.7       | 0.0           | 25.2       | 25.2       | 25.2       | 0.0           | 23.2       | 23.1       | 23.0       |
|             |             |       | 1                | 24           | 0             | 19.4       | 19.1       | 19.4       | 0.0           | 20.6       | 20.8       | 20.6       | 0.0           | 25.1       | 25.1       | 25.0       | 0.0           | 23.2       | 23.0       | 23.1       |
|             |             |       | 12               | 0            | 0             | 19.2       | 19.2       | 19.4       | 1.0           | 19.8       | 19.8       | 19.7       | 1.0           | 24.2       | 24.2       | 24.0       | 0.0           | 23.0       | 23.2       | 23.2       |
|             |             |       | 12               | 7            | 0             | 19.2       | 19.0       | 19.2       | 1.0           | 19.8       | 19.8       | 19.7       | 1.0           | 24.1       | 24.2       | 24.3       | 0.0           | 23.1       | 23.0       | 23.2       |
|             |             |       | 12               | 13           | 0             | 19.4       | 19.1       | 19.2       | 1.0           | 19.6       | 19.6       | 19.8       | 1.0           | 24.3       | 24.2       | 24.1       | 0.0           | 23.1       | 23.1       | 23.1       |
|             |             | 16QAM | 25               | 0            | 0             | 19.2       | 19.4       | 19.2       | 1.0           | 19.8       | 19.7       | 19.5       | 1.0           | 24.3       | 24.3       | 24.1       | 0.0           | 23.2       | 23.1       | 23.2       |
|             |             |       | 1                | 0            | 0             | 19.4       | 19.3       | 19.4       | 1.0           | 19.6       | 19.5       | 19.8       | 1.0           | 24.3       | 24.2       | 24.1       | 0.0           | 23.2       | 23.1       | 23.0       |
|             |             |       | 1                | 12           | 0             | 19.2       | 19.1       | 19.4       | 1.0           | 19.7       | 19.8       | 19.5       | 1.0           | 24.1       | 24.1       | 24.2       | 0.0           | 23.3       | 23.3       | 23.2       |
|             |             |       | 1                | 24           | 0             | 19.4       | 19.0       | 19.1       | 1.0           | 19.5       | 19.7       | 19.5       | 1.0           | 24.3       | 24.2       | 24.1       | 0.0           | 23.1       | 23.0       | 23.3       |
|             |             |       | 12               | 0            | 0.7           | 18.5       | 18.6       | 18.7       | 2.0           | 18.5       | 18.5       | 18.5       | 2.0           | 23.2       | 23.2       | 23.2       | 0.0           | 23.3       | 23.1       | 23.3       |
|             |             |       | 12               | 7            | 0.7           | 18.8       | 18.8       | 18.7       | 2.0           | 18.8       | 18.6       | 18.6       | 2.0           | 23.0       | 23.0       | 23.3       | 0.0           | 23.2       | 23.2       | 23.1       |
|             |             | 64QAM | 12               | 13           | 0.7           | 18.5       | 18.6       | 18.6       | 2.0           | 18.7       | 18.7       | 18.7       | 2.0           | 23.2       | 23.2       | 23.2       | 0.0           | 23.3       | 23.1       | 23.2       |
|             |             |       | 25               | 0            | 0.7           | 18.6       | 18.6       | 18.8       | 2.0           | 18.5       | 18.7       | 18.5       | 2.0           | 23.3       | 23.1       | 23.1       | 0.0           | 23.2       | 23.2       | 23.0       |
|             |             |       | 1                | 0            | 0.7           | 18.7       | 18.8       | 18.5       | 2.0           | 18.7       | 18.6       | 18.7       | 2.0           | 23.2       | 23.0       | 23.1       | 0.0           | 23.0       | 23.2       | 23.2       |
|             |             |       | 1                | 12           | 0.7           | 18.7       | 18.8       | 18.5       | 2.0           | 18.6       | 18.5       | 18.6       | 2.0           | 23.2       | 23.1       | 23.2       | 0.0           | 23.1       | 23.2       | 23.1       |
|             |             |       | 1                | 24           | 0.7           | 18.6       | 18.6       | 18.7       | 2.0           | 18.5       | 18.6       | 18.6       | 2.0           | 23.2       | 23.2       | 23.2       | 0.0           | 23.1       | 23.1       | 23.1       |
|             |             |       | 12               | 0            | 1.7           | 17.7       | 17.8       | 17.7       | 3.0           | 17.5       | 17.7       | 17.5       | 3.0           | 22.2       | 22.2       | 22.1       | 1.0           | 22.2       | 22.1       | 22.3       |
| 64QAM       | 12          | 7     | 1.7              | 17.8         | 17.6          | 17.7       | 3.0        | 17.6       | 17.7          | 17.7       | 3.0        | 22.3       | 22.1          | 22.1       | 1.0        | 22.1       | 22.2          | 22.1       |            |            |
|             | 12          | 13    | 1.7              | 17.6         | 17.6          | 17.8       | 3.0        | 17.7       | 17.8          | 17.8       | 3.0        | 22.2       | 22.0          | 22.1       | 1.0        | 22.1       | 22.2          | 22.1       |            |            |
|             | 25          | 0     | 1.7              | 17.7         | 17.7          | 17.6       | 3.0        | 17.8       | 17.7          | 17.8       | 3.0        | 22.1       | 22.2          | 22.1       | 1.0        | 22.1       | 22.1          | 22.3       |            |            |

**LTE Band 25 Average Power (dBm) Measured Results (continued)**

| Band        | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MODE A        |            |            |            |               |            |            |            | MODE B        |            |            |            |               |            |            |            |
|-------------|-------------|-------|------------------|--------------|---------------|------------|------------|------------|---------------|------------|------------|------------|---------------|------------|------------|------------|---------------|------------|------------|------------|
|             |             |       |                  |              | Target<br>MPR | UAT 1      |            |            | Target<br>MPR | LAT 1      |            |            | Target<br>MPR | UAT 1      |            |            | Target<br>MPR | LAT 1      |            |            |
|             |             |       |                  |              |               | 1851.5 MHz | 1882.5 MHz | 1913.5 MHz |               | 1851.5 MHz | 1882.5 MHz | 1913.5 MHz |               | 1851.5 MHz | 1882.5 MHz | 1913.5 MHz |               | 1851.5 MHz | 1882.5 MHz | 1913.5 MHz |
| LTE Band 25 | 3           | QPSK  | 1                | 0            | 0             | 19.5       | 19.4       | 19.1       | 0.0           | 20.7       | 20.6       | 20.7       | 0.0           | 25.2       | 25.3       | 25.2       | 0.0           | 23.2       | 23.1       | 23.3       |
|             |             |       | 1                | 8            | 0             | 19.3       | 19.1       | 19.1       | 0.0           | 20.8       | 20.6       | 20.8       | 0.0           | 25.0       | 25.0       | 25.1       | 0.0           | 23.0       | 23.2       | 23.2       |
|             |             |       | 1                | 14           | 0             | 19.1       | 19.1       | 19.4       | 0.0           | 20.5       | 20.8       | 20.5       | 0.0           | 25.2       | 25.1       | 25.1       | 0.0           | 23.3       | 23.0       | 23.3       |
|             |             |       | 8                | 0            | 0             | 19.3       | 19.4       | 19.3       | 1.0           | 19.5       | 19.7       | 19.6       | 1.0           | 24.1       | 24.3       | 24.0       | 0.0           | 23.2       | 23.2       | 23.2       |
|             |             |       | 8                | 4            | 0             | 19.4       | 19.3       | 19.2       | 1.0           | 19.5       | 19.8       | 19.5       | 1.0           | 24.2       | 24.1       | 24.3       | 0.0           | 23.1       | 23.3       | 23.2       |
|             |             |       | 8                | 7            | 0             | 19.0       | 19.0       | 19.5       | 1.0           | 19.7       | 19.6       | 19.8       | 1.0           | 24.1       | 24.3       | 24.3       | 0.0           | 23.3       | 23.2       | 23.0       |
|             |             | 16QAM | 15               | 0            | 0             | 19.3       | 19.4       | 19.2       | 1.0           | 19.6       | 19.7       | 19.7       | 1.0           | 24.2       | 24.1       | 24.3       | 0.0           | 23.1       | 23.1       | 23.1       |
|             |             |       | 1                | 0            | 0             | 19.0       | 19.0       | 19.5       | 1.0           | 19.5       | 19.5       | 19.6       | 1.0           | 24.1       | 24.1       | 24.0       | 0.0           | 23.3       | 23.1       | 23.1       |
|             |             |       | 1                | 8            | 0             | 19.4       | 19.4       | 19.2       | 1.0           | 19.8       | 19.7       | 19.5       | 1.0           | 24.0       | 24.1       | 24.1       | 0.0           | 23.2       | 23.2       | 23.1       |
|             |             |       | 1                | 14           | 0             | 19.4       | 19.1       | 19.3       | 1.0           | 19.7       | 19.6       | 19.8       | 1.0           | 24.3       | 24.1       | 24.1       | 0.0           | 23.2       | 23.2       | 23.2       |
|             |             |       | 8                | 0            | 0.7           | 18.6       | 18.6       | 18.7       | 2.0           | 18.7       | 18.6       | 18.7       | 2.0           | 23.1       | 23.2       | 23.2       | 0.0           | 23.1       | 23.1       | 23.2       |
|             |             |       | 8                | 4            | 0.7           | 18.6       | 18.6       | 18.7       | 2.0           | 18.6       | 18.8       | 18.7       | 2.0           | 23.1       | 23.1       | 23.1       | 0.0           | 23.1       | 23.2       | 23.0       |
|             |             | 64QAM | 8                | 7            | 0.7           | 18.8       | 18.7       | 18.7       | 2.0           | 18.8       | 18.7       | 18.8       | 2.0           | 23.0       | 23.1       | 23.1       | 0.0           | 23.2       | 23.1       | 23.1       |
|             |             |       | 15               | 0            | 0.7           | 18.6       | 18.7       | 18.6       | 2.0           | 18.7       | 18.7       | 18.6       | 2.0           | 23.1       | 23.2       | 23.2       | 0.0           | 23.2       | 23.2       | 23.1       |
|             |             |       | 1                | 0            | 0.7           | 18.5       | 18.6       | 18.6       | 2.0           | 18.6       | 18.7       | 18.8       | 2.0           | 23.1       | 23.3       | 23.1       | 0.0           | 23.2       | 23.2       | 23.0       |
|             |             |       | 1                | 8            | 0.7           | 18.6       | 18.7       | 18.6       | 2.0           | 18.8       | 18.6       | 18.6       | 2.0           | 23.1       | 23.3       | 23.2       | 0.0           | 23.3       | 23.3       | 23.0       |
|             |             |       | 1                | 14           | 0.7           | 18.6       | 18.6       | 18.6       | 2.0           | 18.5       | 18.7       | 18.6       | 2.0           | 23.2       | 23.2       | 23.3       | 0.0           | 23.1       | 23.2       | 23.0       |
|             |             |       | 8                | 0            | 1.7           | 17.7       | 17.5       | 17.5       | 3.0           | 17.8       | 17.8       | 17.8       | 3.0           | 22.2       | 22.1       | 22.3       | 1.0           | 22.0       | 22.1       | 22.1       |
|             |             |       | 8                | 4            | 1.7           | 17.7       | 17.7       | 17.7       | 3.0           | 17.8       | 17.8       | 17.5       | 3.0           | 22.2       | 22.2       | 22.2       | 1.0           | 22.1       | 22.0       | 22.3       |
|             |             |       | 8                | 7            | 1.7           | 17.7       | 17.7       | 17.5       | 3.0           | 17.8       | 17.6       | 17.8       | 3.0           | 22.2       | 22.1       | 22.1       | 1.0           | 22.3       | 22.1       | 22.2       |
|             |             |       | 15               | 0            | 1.7           | 17.8       | 17.7       | 17.7       | 3.0           | 17.8       | 17.5       | 17.8       | 3.0           | 22.3       | 22.1       | 22.0       | 1.0           | 22.3       | 22.2       | 22.0       |
| Band        | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MODE A        |            |            |            |               |            |            |            | MODE B        |            |            |            |               |            |            |            |
|             |             |       |                  |              | Target<br>MPR | UAT 1      |            |            | Target<br>MPR | LAT 1      |            |            | Target<br>MPR | UAT 1      |            |            | Target<br>MPR | LAT 1      |            |            |
|             |             |       |                  |              |               | 1850.7 MHz | 1882.5 MHz | 1914.3 MHz |               | 1850.7 MHz | 1882.5 MHz | 1914.3 MHz |               | 1850.7 MHz | 1882.5 MHz | 1914.3 MHz |               | 1850.7 MHz | 1882.5 MHz | 1914.3 MHz |
| LTE Band 25 | 1.4         | QPSK  | 1                | 0            | 0             | 19.3       | 19.5       | 19.4       | 0.0           | 20.8       | 20.8       | 20.5       | 0.0           | 25.1       | 25.2       | 25.1       | 0.0           | 23.2       | 23.1       | 23.0       |
|             |             |       | 1                | 3            | 0             | 19.2       | 19.4       | 19.4       | 0.0           | 20.5       | 20.5       | 20.5       | 0.0           | 25.0       | 25.2       | 25.2       | 0.0           | 23.2       | 23.1       | 23.2       |
|             |             |       | 1                | 5            | 0             | 19.5       | 19.2       | 19.5       | 0.0           | 20.7       | 20.7       | 20.7       | 0.0           | 25.2       | 25.1       | 25.0       | 0.0           | 23.3       | 23.2       | 23.0       |
|             |             |       | 3                | 0            | 0             | 19.3       | 19.4       | 19.2       | 0.0           | 20.8       | 20.8       | 20.8       | 0.0           | 25.1       | 25.2       | 25.2       | 0.0           | 23.0       | 23.3       | 23.2       |
|             |             |       | 3                | 1            | 0             | 19.2       | 19.3       | 19.2       | 0.0           | 20.7       | 20.5       | 20.6       | 0.0           | 25.2       | 25.1       | 25.0       | 0.0           | 23.1       | 23.0       | 23.2       |
|             |             |       | 3                | 3            | 0             | 19.3       | 19.4       | 19.3       | 0.0           | 20.6       | 20.5       | 20.7       | 0.0           | 25.0       | 25.1       | 25.1       | 0.0           | 23.0       | 23.1       | 23.3       |
|             |             | 16QAM | 6                | 0            | 0             | 19.4       | 19.4       | 19.4       | 1.0           | 19.8       | 19.6       | 19.6       | 1.0           | 24.0       | 24.2       | 24.1       | 0.0           | 23.1       | 23.3       | 23.1       |
|             |             |       | 1                | 0            | 0             | 19.2       | 19.4       | 19.5       | 1.0           | 19.6       | 19.7       | 19.6       | 1.0           | 24.1       | 24.0       | 24.2       | 0.0           | 23.2       | 23.1       | 23.0       |
|             |             |       | 1                | 3            | 0             | 19.3       | 19.4       | 19.4       | 1.0           | 19.8       | 19.8       | 19.6       | 1.0           | 24.2       | 24.3       | 24.2       | 0.0           | 23.3       | 23.2       | 23.1       |
|             |             |       | 1                | 5            | 0             | 19.5       | 19.4       | 19.3       | 1.0           | 19.8       | 19.6       | 19.6       | 1.0           | 24.1       | 24.1       | 24.1       | 0.0           | 23.2       | 23.2       | 23.1       |
|             |             |       | 3                | 0            | 0             | 19.4       | 19.3       | 19.4       | 1.0           | 19.7       | 19.6       | 19.7       | 1.0           | 24.2       | 24.0       | 24.1       | 0.0           | 23.0       | 23.2       | 23.1       |
|             |             |       | 3                | 1            | 0             | 19.2       | 19.5       | 19.2       | 1.0           | 19.6       | 19.6       | 19.6       | 1.0           | 24.1       | 24.1       | 24.3       | 0.0           | 23.3       | 23.2       | 23.2       |
|             |             | 64QAM | 3                | 3            | 0             | 19.4       | 19.5       | 19.3       | 1.0           | 19.5       | 19.8       | 19.8       | 1.0           | 24.1       | 24.2       | 24.2       | 0.0           | 23.2       | 23.2       | 23.1       |
|             |             |       | 6                | 0            | 0.7           | 18.6       | 18.6       | 18.7       | 2.0           | 18.6       | 18.6       | 18.6       | 2.0           | 23.0       | 23.3       | 23.1       | 0.0           | 23.2       | 23.2       | 23.1       |
|             |             |       | 1                | 0            | 0.7           | 18.6       | 18.8       | 18.7       | 2.0           | 18.7       | 18.7       | 18.7       | 2.0           | 23.1       | 23.0       | 23.2       | 0.0           | 23.2       | 23.1       | 23.1       |
|             |             |       | 1                | 3            | 0.7           | 18.6       | 18.5       | 18.7       | 2.0           | 18.6       | 18.6       | 18.6       | 2.0           | 23.1       | 23.2       | 23.2       | 0.0           | 23.3       | 23.2       | 23.2       |
|             |             |       | 1                | 5            | 0.7           | 18.8       | 18.7       | 18.7       | 2.0           | 18.8       | 18.7       | 18.8       | 2.0           | 23.2       | 23.1       | 23.2       | 0.0           | 23.1       | 23.0       | 23.2       |
|             |             |       | 3                | 0            | 0.7           | 18.7       | 18.7       | 18.6       | 2.0           | 18.7       | 18.6       | 18.7       | 2.0           | 23.2       | 23.2       | 23.2       | 0.0           | 23.2       | 23.1       | 23.2       |
|             |             |       | 3                | 1            | 0.7           | 18.7       | 18.5       | 18.7       | 2.0           | 18.6       | 18.7       | 18.6       | 2.0           | 23.0       | 23.1       | 23.2       | 0.0           | 23.2       | 23.1       | 23.1       |
|             |             |       | 3                | 3            | 0.7           | 18.7       | 18.7       | 18.7       | 2.0           | 18.6       | 18.6       | 18.6       | 2.0           | 23.3       | 23.1       | 23.2       | 0.0           | 23.1       | 23.3       | 23.1       |
|             |             |       | 6                | 0            | 1.7           | 17.7       | 17.5       | 17.5       | 3.0           | 17.6       | 17.7       | 17.7       | 3.0           | 22.0       | 22.2       | 22.1       | 1.0           | 22.2       | 22.1       | 22.0       |

**LTE Band 26 (Average Power (dBm) Measured Results**

| Band        | BW<br>(MHz)     | Mode  | RB<br>Allocation | RB<br>offset | MODE A        |         |           |         |               |         |           |         | MODE B        |         |           |         |               |         |           |         |
|-------------|-----------------|-------|------------------|--------------|---------------|---------|-----------|---------|---------------|---------|-----------|---------|---------------|---------|-----------|---------|---------------|---------|-----------|---------|
|             |                 |       |                  |              | Target<br>MPR | UAT 1   |           |         | Target<br>MPR | LAT 1   |           |         | Target<br>MPR | UAT 1   |           |         | Target<br>MPR | LAT 1   |           |         |
|             |                 |       |                  |              |               | 819 MHz | 831.5 MHz | 844 MHz |               | 819 MHz | 831.5 MHz | 844 MHz |               | 819 MHz | 831.5 MHz | 844 MHz |               | 819 MHz | 831.5 MHz | 844 MHz |
| LTE Band 26 | Max Power (dBm) |       |                  |              | 24.0          |         |           |         | 24.0          |         |           |         | 24.8          |         |           |         | 24.8          |         |           |         |
|             | 10              | QPSK  | 1                | 0            | 0             | 24.0    | 24.0      | 24.0    | 0             | 24.0    | 24.0      | 24.0    | 0             | 24.8    | 24.8      | 24.8    | 0             | 24.8    | 24.8      | 24.8    |
|             |                 |       | 1                | 24           | 0             | 24.0    | 24.0      | 24.0    | 0             | 24.0    | 24.0      | 24.0    | 0             | 24.8    | 24.8      | 24.8    | 0             | 24.8    | 24.8      | 24.8    |
|             |                 |       | 1                | 49           | 0             | 24.0    | 24.0      | 24.0    | 0             | 24.0    | 24.0      | 24.0    | 0             | 24.8    | 24.8      | 24.8    | 0             | 24.8    | 24.8      | 24.8    |
|             |                 |       | 25               | 0            | 1             | 23.0    | 23.0      | 23.0    | 1             | 23.0    | 23.0      | 23.0    | 1             | 23.8    | 23.8      | 23.8    | 1             | 23.8    | 23.8      | 23.8    |
|             |                 |       | 25               | 12           | 1             | 23.0    | 23.0      | 23.0    | 1             | 23.0    | 23.0      | 23.0    | 1             | 23.8    | 23.8      | 23.8    | 1             | 23.8    | 23.8      | 23.8    |
|             |                 |       | 25               | 24           | 1             | 23.0    | 23.0      | 23.0    | 1             | 23.0    | 23.0      | 23.0    | 1             | 23.8    | 23.8      | 23.8    | 1             | 23.8    | 23.8      | 23.8    |
|             |                 | 16QAM | 50               | 0            | 1             | 23.0    | 23.0      | 23.0    | 1             | 23.0    | 23.0      | 23.0    | 1             | 23.8    | 23.8      | 23.8    | 1             | 23.8    | 23.8      | 23.8    |
|             |                 |       | 1                | 0            | 1             | 22.8    | 22.9      | 23.0    | 1             | 22.8    | 22.9      | 23.0    | 1             | 23.7    | 23.7      | 23.6    | 1             | 23.7    | 23.7      | 23.6    |
|             |                 |       | 1                | 24           | 1             | 22.9    | 22.9      | 22.9    | 1             | 22.9    | 22.9      | 22.9    | 1             | 23.6    | 23.7      | 23.6    | 1             | 23.6    | 23.7      | 23.6    |
|             |                 |       | 1                | 49           | 1             | 23.0    | 22.8      | 22.8    | 1             | 23.0    | 22.8      | 22.8    | 1             | 23.6    | 23.7      | 23.6    | 1             | 23.6    | 23.7      | 23.6    |
|             |                 |       | 25               | 0            | 2             | 21.9    | 21.9      | 22.0    | 2             | 21.9    | 21.9      | 22.0    | 2             | 22.6    | 22.7      | 22.7    | 2             | 22.6    | 22.7      | 22.7    |
|             |                 |       | 25               | 12           | 2             | 21.9    | 21.8      | 21.9    | 2             | 21.9    | 21.8      | 21.9    | 2             | 22.8    | 22.6      | 22.7    | 2             | 22.8    | 22.6      | 22.7    |
|             |                 | 64QAM | 25               | 24           | 2             | 21.8    | 21.8      | 21.8    | 2             | 21.8    | 21.8      | 21.8    | 2             | 22.7    | 22.8      | 22.6    | 2             | 22.7    | 22.8      | 22.6    |
|             |                 |       | 50               | 0            | 2             | 21.9    | 22.0      | 21.8    | 2             | 21.9    | 22.0      | 21.8    | 2             | 22.7    | 22.8      | 22.8    | 2             | 22.7    | 22.8      | 22.8    |
|             |                 |       | 1                | 0            | 2             | 21.9    | 21.9      | 22.0    | 2             | 21.9    | 21.9      | 22.0    | 2             | 22.6    | 22.7      | 22.6    | 2             | 22.6    | 22.7      | 22.6    |
|             |                 |       | 1                | 24           | 2             | 22.0    | 21.9      | 21.8    | 2             | 22.0    | 21.9      | 21.8    | 2             | 22.7    | 22.7      | 22.6    | 2             | 22.7    | 22.7      | 22.6    |
|             |                 |       | 1                | 49           | 2             | 21.8    | 22.0      | 21.9    | 2             | 21.8    | 22.0      | 21.9    | 2             | 22.8    | 22.7      | 22.7    | 2             | 22.8    | 22.7      | 22.7    |
|             |                 |       | 25               | 0            | 3             | 20.8    | 20.8      | 20.8    | 3             | 20.8    | 20.8      | 20.8    | 3             | 21.7    | 21.8      | 21.8    | 3             | 21.7    | 21.8      | 21.8    |
|             | 64QAM           | 25    | 12               | 3            | 20.9          | 21.0    | 20.8      | 3       | 20.9          | 21.0    | 20.8      | 3       | 21.6          | 21.7    | 21.8      | 3       | 21.6          | 21.7    | 21.8      |         |
|             |                 | 25    | 24               | 3            | 20.9          | 20.9    | 20.8      | 3       | 20.9          | 20.9    | 20.8      | 3       | 21.8          | 21.6    | 21.8      | 3       | 21.8          | 21.6    | 21.8      |         |
|             |                 | 50    | 0                | 3            | 20.9          | 20.8    | 20.9      | 3       | 20.9          | 20.8    | 20.9      | 3       | 21.7          | 21.8    | 21.6      | 3       | 21.7          | 21.8    | 21.6      |         |
| 5           |                 | QPSK  | 1                | 0            | 0             | 24.0    | 23.9      | 24.0    | 0             | 24.0    | 23.9      | 24.0    | 0             | 24.6    | 24.7      | 24.8    | 0             | 24.6    | 24.7      | 24.8    |
|             |                 |       | 1                | 12           | 0             | 23.9    | 23.8      | 23.9    | 0             | 23.9    | 23.8      | 23.9    | 0             | 24.8    | 24.7      | 24.7    | 0             | 24.8    | 24.7      | 24.7    |
|             |                 |       | 1                | 24           | 0             | 23.9    | 23.8      | 23.8    | 0             | 23.9    | 23.8      | 23.8    | 0             | 24.7    | 24.6      | 24.8    | 0             | 24.7    | 24.6      | 24.8    |
|             | 12              |       | 0                | 1            | 22.9          | 22.9    | 22.8      | 1       | 22.9          | 22.9    | 22.8      | 1       | 23.7          | 23.6    | 23.8      | 1       | 23.7          | 23.6    | 23.8      |         |
|             | 12              |       | 7                | 1            | 22.8          | 22.9    | 22.9      | 1       | 22.8          | 22.9    | 22.9      | 1       | 23.7          | 23.8    | 23.8      | 1       | 23.7          | 23.8    | 23.8      |         |
|             | 12              |       | 13               | 1            | 22.8          | 23.0    | 22.9      | 1       | 22.8          | 23.0    | 22.9      | 1       | 23.7          | 23.6    | 23.7      | 1       | 23.7          | 23.6    | 23.7      |         |
|             | 16QAM           | 25    | 0                | 1            | 22.9          | 22.9    | 23.0      | 1       | 22.9          | 22.9    | 23.0      | 1       | 23.8          | 23.8    | 23.6      | 1       | 23.8          | 23.8    | 23.6      |         |
|             |                 | 1     | 0                | 1            | 22.8          | 23.0    | 22.9      | 1       | 22.8          | 23.0    | 22.9      | 1       | 23.7          | 23.8    | 23.7      | 1       | 23.7          | 23.8    | 23.7      |         |
|             |                 | 1     | 12               | 1            | 22.8          | 22.8    | 23.0      | 1       | 22.8          | 22.8    | 23.0      | 1       | 23.6          | 23.7    | 23.6      | 1       | 23.6          | 23.7    | 23.6      |         |
|             |                 | 1     | 24               | 1            | 22.8          | 23.0    | 22.8      | 1       | 22.8          | 23.0    | 22.8      | 1       | 23.7          | 23.8    | 23.6      | 1       | 23.7          | 23.8    | 23.6      |         |
|             |                 | 12    | 0                | 2            | 21.9          | 21.8    | 21.9      | 2       | 21.9          | 21.8    | 21.9      | 2       | 22.6          | 22.7    | 22.6      | 2       | 22.6          | 22.7    | 22.6      |         |
|             |                 | 12    | 7                | 2            | 21.9          | 21.9    | 21.8      | 2       | 21.9          | 21.9    | 21.8      | 2       | 22.7          | 22.8    | 22.7      | 2       | 22.7          | 22.8    | 22.7      |         |
|             | 64QAM           | 12    | 13               | 2            | 21.8          | 21.8    | 22.0      | 2       | 21.8          | 21.8    | 22.0      | 2       | 22.8          | 22.7    | 22.7      | 2       | 22.8          | 22.7    | 22.7      |         |
|             |                 | 25    | 0                | 2            | 21.8          | 21.9    | 21.9      | 2       | 21.8          | 21.9    | 21.9      | 2       | 22.8          | 22.6    | 22.7      | 2       | 22.8          | 22.6    | 22.7      |         |
| 1           |                 | 0     | 2                | 21.9         | 21.8          | 22.0    | 2         | 21.9    | 21.8          | 22.0    | 2         | 22.7    | 22.6          | 22.8    | 2         | 22.7    | 22.6          | 22.8    |           |         |
| 1           |                 | 12    | 2                | 21.8         | 21.9          | 21.9    | 2         | 21.8    | 21.9          | 21.9    | 2         | 22.6    | 22.6          | 22.6    | 2         | 22.6    | 22.6          | 22.6    |           |         |
| 1           |                 | 24    | 2                | 22.0         | 22.0          | 21.9    | 2         | 22.0    | 22.0          | 21.9    | 2         | 22.7    | 22.6          | 22.7    | 2         | 22.7    | 22.6          | 22.7    |           |         |
| 12          |                 | 0     | 3                | 20.9         | 21.0          | 21.0    | 3         | 20.9    | 21.0          | 21.0    | 3         | 21.8    | 21.8          | 21.7    | 3         | 21.8    | 21.8          | 21.7    |           |         |
| 64QAM       | 12              | 7     | 3                | 20.8         | 21.0          | 20.8    | 3         | 20.8    | 21.0          | 20.8    | 3         | 21.7    | 21.7          | 21.7    | 3         | 21.7    | 21.7          | 21.7    |           |         |
|             | 12              | 13    | 3                | 20.9         | 21.0          | 20.8    | 3         | 20.9    | 21.0          | 20.8    | 3         | 21.6    | 21.6          | 21.7    | 3         | 21.6    | 21.6          | 21.7    |           |         |
|             | 25              | 0     | 3                | 21.0         | 20.9          | 20.9    | 3         | 21.0    | 20.9          | 20.9    | 3         | 21.8    | 21.8          | 21.8    | 3         | 21.8    | 21.8          | 21.8    |           |         |

**LTE Band 26 Average Power (dBm) Measured Results (continued)**

| Band        | BW<br>(MHz) | Mode        | RB<br>Allocation | RB<br>offset     | MODE A        |               |           |           |               |               |           |           | MODE B        |               |           |           |               |               |           |           |  |
|-------------|-------------|-------------|------------------|------------------|---------------|---------------|-----------|-----------|---------------|---------------|-----------|-----------|---------------|---------------|-----------|-----------|---------------|---------------|-----------|-----------|--|
|             |             |             |                  |                  | Target<br>MPR | UAT 1         |           |           | Target<br>MPR | LAT 1         |           |           | Target<br>MPR | UAT 1         |           |           | Target<br>MPR | LAT 1         |           |           |  |
|             |             |             |                  |                  |               | 815.5 MHz     | 831.5 MHz | 847.5 MHz |               | 815.5 MHz     | 831.5 MHz | 847.5 MHz |               | 815.5 MHz     | 831.5 MHz | 847.5 MHz |               | 815.5 MHz     | 831.5 MHz | 847.5 MHz |  |
| LTE Band 26 | 3           | QPSK        | 1                | 0                | 0             | 24.0          | 24.0      | 23.9      | 0             | 24.0          | 24.0      | 23.9      | 0             | 24.8          | 24.6      | 24.6      | 0             | 24.8          | 24.6      | 24.6      |  |
|             |             |             | 1                | 8                | 0             | 23.9          | 24.0      | 23.8      | 0             | 23.9          | 24.0      | 23.8      | 0             | 24.8          | 24.8      | 24.7      | 0             | 24.8          | 24.8      | 24.7      |  |
|             |             |             | 1                | 14               | 0             | 23.9          | 23.8      | 23.9      | 0             | 23.9          | 23.8      | 23.9      | 0             | 24.7          | 24.8      | 24.7      | 0             | 24.7          | 24.8      | 24.7      |  |
|             |             |             | 8                | 0                | 1             | 22.9          | 22.8      | 22.9      | 1             | 22.9          | 22.8      | 22.9      | 1             | 23.7          | 23.8      | 23.8      | 1             | 23.7          | 23.8      | 23.8      |  |
|             |             |             | 8                | 4                | 1             | 23.0          | 22.8      | 22.9      | 1             | 23.0          | 22.8      | 22.9      | 1             | 23.7          | 23.8      | 23.6      | 1             | 23.7          | 23.8      | 23.6      |  |
|             |             |             | 8                | 7                | 1             | 23.0          | 22.9      | 22.8      | 1             | 23.0          | 22.9      | 22.8      | 1             | 23.7          | 23.7      | 23.6      | 1             | 23.7          | 23.7      | 23.6      |  |
|             |             | 16QAM       | 15               | 0                | 1             | 23.0          | 22.8      | 22.8      | 1             | 23.0          | 22.8      | 22.8      | 1             | 23.6          | 23.8      | 23.8      | 1             | 23.6          | 23.8      | 23.8      |  |
|             |             |             | 1                | 0                | 1             | 23.0          | 22.9      | 23.0      | 1             | 23.0          | 22.9      | 23.0      | 1             | 23.7          | 23.6      | 23.7      | 1             | 23.7          | 23.6      | 23.7      |  |
|             |             |             | 1                | 8                | 1             | 22.9          | 23.0      | 23.0      | 1             | 22.9          | 23.0      | 23.0      | 1             | 23.6          | 23.8      | 23.7      | 1             | 23.6          | 23.8      | 23.7      |  |
|             |             |             | 1                | 14               | 1             | 22.9          | 22.8      | 22.9      | 1             | 22.9          | 22.8      | 22.9      | 1             | 23.8          | 23.6      | 23.6      | 1             | 23.8          | 23.6      | 23.6      |  |
|             |             |             | 8                | 0                | 2             | 22.0          | 21.9      | 21.9      | 2             | 22.0          | 21.9      | 21.9      | 2             | 22.8          | 22.8      | 22.7      | 2             | 22.8          | 22.8      | 22.7      |  |
|             |             |             | 8                | 4                | 2             | 22.0          | 21.8      | 22.0      | 2             | 22.0          | 21.8      | 22.0      | 2             | 22.8          | 22.8      | 22.8      | 2             | 22.8          | 22.8      | 22.8      |  |
|             |             | 64QAM       | 8                | 7                | 2             | 21.9          | 21.9      | 21.9      | 2             | 21.9          | 21.9      | 21.9      | 2             | 22.7          | 22.6      | 22.6      | 2             | 22.7          | 22.6      | 22.6      |  |
|             |             |             | 15               | 0                | 2             | 21.8          | 22.0      | 21.9      | 2             | 21.8          | 22.0      | 21.9      | 2             | 22.8          | 22.8      | 22.7      | 2             | 22.8          | 22.8      | 22.7      |  |
|             |             |             | 1                | 0                | 2             | 22.0          | 21.8      | 22.0      | 2             | 22.0          | 21.8      | 22.0      | 2             | 22.7          | 22.6      | 22.7      | 2             | 22.7          | 22.6      | 22.7      |  |
|             |             |             | 1                | 8                | 2             | 21.9          | 21.8      | 21.8      | 2             | 21.9          | 21.8      | 21.8      | 2             | 22.7          | 22.8      | 22.8      | 2             | 22.7          | 22.8      | 22.8      |  |
|             |             |             | 1                | 14               | 2             | 22.0          | 21.8      | 22.0      | 2             | 22.0          | 21.8      | 22.0      | 2             | 22.8          | 22.7      | 22.6      | 2             | 22.8          | 22.7      | 22.6      |  |
|             |             |             | 8                | 0                | 3             | 20.8          | 20.8      | 20.8      | 3             | 20.8          | 20.8      | 20.8      | 3             | 21.8          | 21.6      | 21.8      | 3             | 21.8          | 21.6      | 21.8      |  |
|             | 8           | 4           | 3                | 20.9             | 20.9          | 21.0          | 3         | 20.9      | 20.9          | 21.0          | 3         | 21.8      | 21.8          | 21.6          | 3         | 21.8      | 21.8          | 21.6          |           |           |  |
|             | 8           | 7           | 3                | 21.0             | 21.0          | 20.9          | 3         | 21.0      | 21.0          | 20.9          | 3         | 21.8      | 21.8          | 21.7          | 3         | 21.8      | 21.8          | 21.7          |           |           |  |
|             | 15          | 0           | 3                | 20.9             | 21.0          | 20.8          | 3         | 20.9      | 21.0          | 20.8          | 3         | 21.8      | 21.8          | 21.7          | 3         | 21.8      | 21.8          | 21.7          |           |           |  |
|             | Band        | BW<br>(MHz) | Mode             | RB<br>Allocation | RB<br>offset  | MODE A        |           |           |               |               |           |           |               | MODE B        |           |           |               |               |           |           |  |
|             |             |             |                  |                  |               | Target<br>MPR | UAT 1     |           |               | Target<br>MPR | LAT 1     |           |               | Target<br>MPR | UAT 1     |           |               | Target<br>MPR | LAT 1     |           |  |
| 814.7 MHz   |             |             |                  |                  |               |               | 831.5 MHz | 848.3 MHz | 814.7 MHz     |               | 831.5 MHz | 848.3 MHz | 814.7 MHz     |               | 831.5 MHz | 848.3 MHz | 814.7 MHz     |               | 831.5 MHz | 848.3 MHz |  |
| LTE Band 26 | 1.4         | QPSK        | 1                | 0                | 0             | 23.9          | 23.9      | 23.9      | 0             | 23.9          | 23.9      | 23.9      | 0             | 24.8          | 24.6      | 24.6      | 0             | 24.8          | 24.6      | 24.6      |  |
|             |             |             | 1                | 3                | 0             | 23.9          | 23.9      | 24.0      | 0             | 23.9          | 23.9      | 24.0      | 0             | 24.8          | 24.6      | 24.7      | 0             | 24.8          | 24.6      | 24.7      |  |
|             |             |             | 1                | 5                | 0             | 23.9          | 23.8      | 23.9      | 0             | 23.9          | 23.8      | 23.9      | 0             | 24.7          | 24.7      | 24.8      | 0             | 24.7          | 24.7      | 24.8      |  |
|             |             |             | 3                | 0                | 0             | 23.9          | 23.8      | 24.0      | 0             | 23.9          | 23.8      | 24.0      | 0             | 24.6          | 24.6      | 24.8      | 0             | 24.6          | 24.6      | 24.8      |  |
|             |             |             | 3                | 1                | 0             | 23.8          | 23.8      | 23.9      | 0             | 23.8          | 23.8      | 23.9      | 0             | 24.8          | 24.8      | 24.7      | 0             | 24.8          | 24.8      | 24.7      |  |
|             |             |             | 3                | 3                | 0             | 24.0          | 23.8      | 24.0      | 0             | 24.0          | 23.8      | 24.0      | 0             | 24.7          | 24.8      | 24.7      | 0             | 24.7          | 24.8      | 24.7      |  |
|             |             | 16QAM       | 6                | 0                | 1             | 23.0          | 22.9      | 22.8      | 1             | 23.0          | 22.9      | 22.8      | 1             | 23.7          | 23.8      | 23.8      | 1             | 23.7          | 23.8      | 23.8      |  |
|             |             |             | 1                | 0                | 1             | 23.0          | 22.8      | 23.0      | 1             | 23.0          | 22.8      | 23.0      | 1             | 23.7          | 23.7      | 23.6      | 1             | 23.7          | 23.7      | 23.6      |  |
|             |             |             | 1                | 3                | 1             | 22.9          | 22.8      | 22.8      | 1             | 22.9          | 22.8      | 22.8      | 1             | 23.8          | 23.8      | 23.8      | 1             | 23.8          | 23.8      | 23.8      |  |
|             |             |             | 1                | 5                | 1             | 22.9          | 22.9      | 22.9      | 1             | 22.9          | 22.9      | 22.9      | 1             | 23.8          | 23.6      | 23.7      | 1             | 23.8          | 23.6      | 23.7      |  |
|             |             |             | 3                | 0                | 1             | 22.8          | 22.8      | 22.8      | 1             | 22.8          | 22.8      | 22.8      | 1             | 23.7          | 23.7      | 23.8      | 1             | 23.7          | 23.7      | 23.8      |  |
|             |             |             | 3                | 1                | 1             | 22.8          | 23.0      | 23.0      | 1             | 22.8          | 23.0      | 23.0      | 1             | 23.8          | 23.6      | 23.6      | 1             | 23.8          | 23.6      | 23.6      |  |
|             |             | 64QAM       | 3                | 3                | 1             | 23.0          | 22.8      | 22.8      | 1             | 23.0          | 22.8      | 22.8      | 1             | 23.6          | 23.7      | 23.8      | 1             | 23.6          | 23.7      | 23.8      |  |
|             |             |             | 6                | 0                | 2             | 21.8          | 21.8      | 22.0      | 2             | 21.8          | 21.8      | 22.0      | 2             | 22.8          | 22.7      | 22.6      | 2             | 22.8          | 22.7      | 22.6      |  |
|             |             |             | 1                | 0                | 2             | 21.8          | 22.0      | 21.8      | 2             | 21.8          | 22.0      | 21.8      | 2             | 22.8          | 22.7      | 22.6      | 2             | 22.8          | 22.7      | 22.6      |  |
|             |             |             | 1                | 3                | 2             | 21.8          | 21.8      | 21.8      | 2             | 21.8          | 21.8      | 21.8      | 2             | 22.6          | 22.6      | 22.7      | 2             | 22.6          | 22.6      | 22.7      |  |
|             |             |             | 1                | 5                | 2             | 21.9          | 21.9      | 22.0      | 2             | 21.9          | 21.9      | 22.0      | 2             | 22.8          | 22.6      | 22.6      | 2             | 22.8          | 22.6      | 22.6      |  |
|             |             |             | 3                | 0                | 2             | 22.0          | 21.8      | 22.0      | 2             | 22.0          | 21.8      | 22.0      | 2             | 22.6          | 22.6      | 22.8      | 2             | 22.6          | 22.6      | 22.8      |  |
|             | 3           | 1           | 2                | 22.0             | 21.8          | 22.0          | 2         | 22.0      | 21.8          | 22.0          | 2         | 22.7      | 22.7          | 22.7          | 2         | 22.7      | 22.7          | 22.7          |           |           |  |
|             | 3           | 3           | 2                | 21.9             | 22.0          | 22.0          | 2         | 21.9      | 22.0          | 22.0          | 2         | 22.7      | 22.7          | 22.8          | 2         | 22.7      | 22.7          | 22.8          |           |           |  |
|             | 6           | 0           | 3                | 21.0             | 20.8          | 21.0          | 3         | 21.0      | 20.8          | 21.0          | 3         | 21.7      | 21.6          | 21.7          | 3         | 21.7      | 21.6          | 21.7          |           |           |  |

**LTE Band 30 Average Power (dBm) Measured Results**

| Band        | BW<br>(MHz)     | Mode | RB Allocation | RB<br>offset | MODE A        |       |          |               |       |          | MODE B        |       |          |               |       |          |
|-------------|-----------------|------|---------------|--------------|---------------|-------|----------|---------------|-------|----------|---------------|-------|----------|---------------|-------|----------|
|             |                 |      |               |              | Target<br>MPR | UAT 1 |          | Target<br>MPR | LAT 1 |          | Target<br>MPR | UAT 1 |          | Target<br>MPR | LAT 1 |          |
|             |                 |      |               |              |               |       | 2310 MHz |               |       | 2310 MHz |               |       | 2310 MHz |               |       | 2310 MHz |
| LTE Band 30 | Max Power (dBm) |      |               |              |               | 20.0  |          |               | 20.0  |          |               | 23.8  |          |               | 22.0  |          |
|             | QPSK            | 1    | 0             | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 0     | 23.8     |               | 0.0   | 219      |
|             |                 | 1    | 24            | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 0     | 23.8     |               | 0.0   | 22.0     |
|             |                 | 1    | 49            | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 0     | 23.8     |               | 0.0   | 22.0     |
|             |                 | 25   | 0             | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 1     | 22.8     |               | 0.0   | 22.0     |
|             |                 | 25   | 12            | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 1     | 22.8     |               | 0.0   | 219      |
|             |                 | 25   | 24            | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 1     | 22.8     |               | 0.0   | 22.0     |
|             |                 | 50   | 0             | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 1     | 22.8     |               | 0.0   | 22.0     |
|             |                 | 1    | 0             | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 1     | 22.8     |               | 0.0   | 22.0     |
|             |                 | 1    | 24            | 0            |               | 19.9  |          | 0.0           |       | 20.0     |               | 1     | 22.8     |               | 0.0   | 22.0     |
|             |                 | 1    | 49            | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 1     | 22.7     |               | 0.0   | 219      |
|             | 16QAM           | 25   | 0             | 1            |               | 19.3  |          | 0.7           |       | 19.3     |               | 2     | 21.6     |               | 0.2   | 218      |
|             |                 | 25   | 12            | 1            |               | 19.3  |          | 0.7           |       | 19.2     |               | 2     | 21.7     |               | 0.2   | 217      |
|             |                 | 25   | 24            | 1            |               | 19.2  |          | 0.7           |       | 19.3     |               | 2     | 21.7     |               | 0.2   | 218      |
|             |                 | 50   | 0             | 1            |               | 19.2  |          | 0.7           |       | 19.3     |               | 2     | 21.8     |               | 0.2   | 218      |
|             |                 | 1    | 0             | 1            |               | 19.3  |          | 0.7           |       | 19.3     |               | 2     | 21.7     |               | 0.2   | 218      |
|             | 64QAM           | 1    | 24            | 1            |               | 19.2  |          | 0.7           |       | 19.3     |               | 2     | 21.8     |               | 0.2   | 217      |
|             |                 | 1    | 49            | 1            |               | 19.3  |          | 0.7           |       | 19.3     |               | 2     | 21.8     |               | 0.2   | 218      |
|             |                 | 25   | 0             | 2            |               | 19.2  |          | 1.7           |       | 19.3     |               | 3     | 20.8     |               | 1.2   | 20.8     |
|             |                 | 25   | 12            | 2            |               | 19.3  |          | 1.7           |       | 19.2     |               | 3     | 20.7     |               | 1.2   | 20.8     |
|             |                 | 25   | 24            | 2            |               | 19.3  |          | 1.7           |       | 19.3     |               | 3     | 20.7     |               | 1.2   | 20.7     |
|             |                 | 50   | 0             | 2            |               | 19.2  |          | 1.7           |       | 19.3     |               | 3     | 20.8     |               | 1.2   | 20.8     |
| 1           |                 | 0    | 1             |              | 19.3          |       | 0.7      |               | 19.3  |          | 2             | 21.7  |          | 0.2           | 218   |          |
| 1           |                 | 24   | 1             |              | 19.2          |       | 0.7      |               | 19.3  |          | 2             | 21.8  |          | 0.2           | 217   |          |
| LTE Band 30 | QPSK            | 1    | 0             | 0            |               | 19.9  |          | 0.0           |       | 19.9     |               | 0.0   | 23.7     |               | 0.0   | 219      |
|             |                 | 1    | 12            | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 0.0   | 23.8     |               | 0.0   | 22.0     |
|             |                 | 1    | 24            | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 0.0   | 23.8     |               | 0.0   | 22.0     |
|             |                 | 12   | 0             | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 10    | 22.7     |               | 0.0   | 22.0     |
|             |                 | 12   | 7             | 0            |               | 19.9  |          | 0.0           |       | 20.0     |               | 10    | 22.7     |               | 0.0   | 219      |
|             |                 | 12   | 13            | 0            |               | 20.0  |          | 0.0           |       | 19.9     |               | 10    | 22.8     |               | 0.0   | 22.0     |
|             |                 | 25   | 0             | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 10    | 22.8     |               | 0.0   | 22.0     |
|             |                 | 1    | 0             | 0            |               | 19.9  |          | 0.0           |       | 20.0     |               | 10    | 22.8     |               | 0.0   | 22.0     |
|             |                 | 1    | 12            | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 10    | 22.8     |               | 0.0   | 22.0     |
|             |                 | 1    | 24            | 0            |               | 20.0  |          | 0.0           |       | 20.0     |               | 10    | 22.7     |               | 0.0   | 219      |
|             | 16QAM           | 12   | 0             | 1            |               | 19.2  |          | 0.7           |       | 19.3     |               | 2.0   | 21.7     |               | 0.2   | 218      |
|             |                 | 12   | 7             | 1            |               | 19.2  |          | 0.7           |       | 19.2     |               | 2.0   | 21.7     |               | 0.2   | 217      |
|             |                 | 12   | 13            | 1            |               | 19.3  |          | 0.7           |       | 19.3     |               | 2.0   | 21.8     |               | 0.2   | 217      |
|             |                 | 25   | 0             | 1            |               | 19.3  |          | 0.7           |       | 19.3     |               | 2.0   | 21.8     |               | 0.2   | 217      |
|             |                 | 1    | 0             | 1            |               | 19.3  |          | 0.7           |       | 19.3     |               | 2.0   | 21.7     |               | 0.2   | 217      |
|             | 64QAM           | 1    | 12            | 1            |               | 19.2  |          | 0.7           |       | 19.3     |               | 2.0   | 21.8     |               | 0.2   | 217      |
|             |                 | 1    | 24            | 1            |               | 19.3  |          | 0.7           |       | 19.3     |               | 2.0   | 21.8     |               | 0.2   | 217      |
|             |                 | 12   | 0             | 2            |               | 19.3  |          | 1.7           |       | 19.3     |               | 3.0   | 20.8     |               | 1.2   | 20.7     |
|             |                 | 12   | 7             | 2            |               | 19.2  |          | 1.7           |       | 19.2     |               | 3.0   | 20.8     |               | 1.2   | 20.8     |
|             |                 | 12   | 13            | 2            |               | 19.3  |          | 1.7           |       | 19.3     |               | 3.0   | 20.7     |               | 1.2   | 20.8     |
|             |                 | 25   | 0             | 2            |               | 19.2  |          | 1.7           |       | 19.3     |               | 3.0   | 20.8     |               | 1.2   | 20.7     |
|             |                 | 1    | 0             | 1            |               | 19.3  |          | 0.7           |       | 19.3     |               | 2.0   | 21.7     |               | 0.2   | 217      |

**Note(s):**

10/5 MHz Bandwidths does not support at least three non-overlapping channels in certain channel bandwidths. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing per KDB 941225 D05 SAR for LTE Devices

## LTE Band 66 Average Power (dBm) Measured Results

| Band        | BW<br>(MHz)     | Mode  | RB<br>Allocation | RB<br>offset | MODE A        |            |          |            |               |            |          |            | MODE B        |            |          |            |               |            |          |            |
|-------------|-----------------|-------|------------------|--------------|---------------|------------|----------|------------|---------------|------------|----------|------------|---------------|------------|----------|------------|---------------|------------|----------|------------|
|             |                 |       |                  |              | Target<br>MPR | UAT 1      |          |            | Target<br>MPR | LAT 1      |          |            | Target<br>MPR | UAT 1      |          |            | Target<br>MPR | LAT 1      |          |            |
|             |                 |       |                  |              |               | 1720 MHz   | 1745 MHz | 1770 MHz   |               | 1720 MHz   | 1745 MHz | 1770 MHz   |               | 1720 MHz   | 1745 MHz | 1770 MHz   |               | 1720 MHz   | 1745 MHz | 1770 MHz   |
| LTE Band 66 | Max Power (dBm) |       |                  |              | 21.8          |            |          |            | 22.2          |            |          |            | 25.3          |            |          |            | 24.5          |            |          |            |
|             | 20              | QPSK  | 1                | 0            | 0             | 218        | 218      | 216        | 0.0           | 22.2       | 22.2     | 22.2       | 0.0           | 25.2       | 25.3     | 25.3       | 0.0           | 24.5       | 24.5     | 24.5       |
|             |                 |       | 1                | 49           | 0             | 218        | 218      | 216        | 0.0           | 22.2       | 22.2     | 22.2       | 0.0           | 25.3       | 25.3     | 25.2       | 0.0           | 24.5       | 24.5     | 24.5       |
|             |                 |       | 1                | 99           | 0             | 218        | 218      | 216        | 0.0           | 22.1       | 22.2     | 22.2       | 0.0           | 25.3       | 25.3     | 25.2       | 0.0           | 24.5       | 24.5     | 24.5       |
|             |                 |       | 50               | 0            | 0.6           | 212        | 212      | 211        | 10            | 212        | 212      | 211        | 10            | 24.3       | 24.3     | 24.2       | 0.2           | 24.2       | 24.2     | 24.2       |
|             |                 |       | 50               | 24           | 0.6           | 212        | 212      | 211        | 10            | 212        | 212      | 211        | 10            | 24.3       | 24.3     | 24.3       | 0.2           | 24.2       | 24.2     | 24.2       |
|             |                 |       | 50               | 49           | 0.6           | 212        | 212      | 212        | 10            | 212        | 212      | 212        | 10            | 24.3       | 24.3     | 24.2       | 0.2           | 24.1       | 24.2     | 24.2       |
|             |                 | 100   | 0                | 0.6          | 211           | 212        | 212      | 10         | 212           | 212        | 211      | 10         | 24.3          | 24.3       | 24.2     | 0.2        | 24.2          | 24.2       | 24.1     |            |
|             |                 | 16QAM | 1                | 0            | 0.6           | 212        | 212      | 211        | 10            | 211        | 212      | 212        | 10            | 24.3       | 24.3     | 24.3       | 0.2           | 24.2       | 24.2     | 24.1       |
|             |                 |       | 1                | 49           | 0.6           | 212        | 212      | 212        | 10            | 212        | 212      | 212        | 10            | 24.3       | 24.2     | 24.2       | 0.2           | 24.2       | 24.2     | 24.2       |
|             |                 |       | 1                | 99           | 0.6           | 212        | 212      | 212        | 10            | 211        | 212      | 212        | 10            | 24.3       | 24.3     | 24.2       | 0.2           | 24.1       | 24.2     | 24.2       |
|             |                 |       | 50               | 0            | 16            | 19.2       | 19.1     | 19.1       | 2.0           | 20.2       | 20.2     | 20.2       | 2.0           | 23.3       | 23.3     | 23.3       | 12            | 23.2       | 23.1     | 23.2       |
|             |                 |       | 50               | 24           | 16            | 19.2       | 19.2     | 19.2       | 2.0           | 20.1       | 20.2     | 20.2       | 2.0           | 23.3       | 23.2     | 23.2       | 12            | 23.1       | 23.2     | 23.2       |
|             |                 |       | 50               | 49           | 16            | 19.2       | 19.2     | 19.2       | 2.0           | 20.2       | 20.2     | 20.2       | 2.0           | 23.3       | 23.3     | 23.3       | 12            | 23.2       | 23.2     | 23.1       |
|             |                 | 64QAM | 100              | 0            | 16            | 19.1       | 19.2     | 19.2       | 2.0           | 20.1       | 20.1     | 20.2       | 2.0           | 23.3       | 23.3     | 23.3       | 12            | 23.1       | 23.2     | 23.1       |
|             |                 |       | 1                | 0            | 16            | 19.1       | 19.1     | 19.2       | 2.0           | 20.2       | 20.1     | 20.2       | 2.0           | 23.3       | 23.3     | 23.3       | 12            | 23.2       | 23.2     | 23.2       |
|             |                 |       | 1                | 49           | 16            | 19.2       | 19.2     | 19.2       | 2.0           | 20.2       | 20.2     | 20.2       | 2.0           | 23.2       | 23.2     | 23.2       | 12            | 23.1       | 23.2     | 23.2       |
|             |                 |       | 1                | 99           | 16            | 19.1       | 19.2     | 19.2       | 2.0           | 20.1       | 20.2     | 20.2       | 2.0           | 23.3       | 23.2     | 23.3       | 12            | 23.2       | 23.2     | 23.1       |
|             |                 |       | 50               | 0            | 2.6           | 18.2       | 18.2     | 18.2       | 3.0           | 19.2       | 19.2     | 19.2       | 3.0           | 22.3       | 22.2     | 22.3       | 2.2           | 22.2       | 22.2     | 22.1       |
|             | 50              |       | 24               | 2.6          | 18.2          | 18.2       | 18.2     | 3.0        | 19.1          | 19.2       | 19.2     | 3.0        | 22.3          | 22.2       | 22.2     | 2.2        | 22.2          | 22.1       | 22.2     |            |
| 50          | 49              | 2.6   | 18.1             | 18.1         | 18.2          | 3.0        | 19.1     | 19.2       | 19.2          | 3.0        | 22.3     | 22.3       | 22.2          | 2.2        | 22.2     | 22.1       | 22.2          |            |          |            |
| 100         | 0               | 2.6   | 18.2             | 18.1         | 18.2          | 3.0        | 19.2     | 19.2       | 19.2          | 3.0        | 22.2     | 22.3       | 22.3          | 2.2        | 22.1     | 22.2       | 22.2          |            |          |            |
| Band        | Band            | Mode  | RB<br>Allocation | RB<br>offset | MODE A        |            |          |            |               |            |          |            | MODE B        |            |          |            |               |            |          |            |
|             |                 |       |                  |              | Target<br>MPR | UAT 1      |          |            | Target<br>MPR | LAT 1      |          |            | Target<br>MPR | UAT 1      |          |            | Target<br>MPR | LAT 1      |          |            |
|             |                 |       |                  |              |               | 1717.5 MHz | 1745 MHz | 1772.5 MHz |               | 1717.5 MHz | 1745 MHz | 1772.5 MHz |               | 1717.5 MHz | 1745 MHz | 1772.5 MHz |               | 1717.5 MHz | 1745 MHz | 1772.5 MHz |
| LTE Band 66 | 15              | QPSK  | 1                | 0            | 0.0           | 217        | 218      | 218        | 0.0           | 22.2       | 22.2     | 22.2       | 0.0           | 25.3       | 25.2     | 25.3       | 0.0           | 24.4       | 24.5     | 24.5       |
|             |                 |       | 1                | 36           | 0.0           | 218        | 218      | 216        | 0.0           | 22.0       | 22.2     | 22.2       | 0.0           | 25.2       | 25.3     | 25.2       | 0.0           | 24.5       | 24.5     | 24.5       |
|             |                 |       | 1                | 74           | 0.0           | 218        | 218      | 217        | 0.0           | 22.2       | 22.1     | 22.2       | 0.0           | 25.2       | 25.3     | 25.3       | 0.0           | 24.5       | 24.5     | 24.5       |
|             |                 |       | 36               | 0            | 0.6           | 212        | 212      | 211        | 10            | 211        | 212      | 212        | 10            | 24.2       | 24.3     | 24.2       | 0.2           | 24.1       | 24.2     | 24.2       |
|             |                 |       | 36               | 18           | 0.6           | 212        | 212      | 211        | 10            | 211        | 212      | 212        | 10            | 24.3       | 24.3     | 24.3       | 0.2           | 24.2       | 24.2     | 24.2       |
|             |                 |       | 36               | 37           | 0.6           | 212        | 212      | 212        | 10            | 212        | 212      | 212        | 10            | 24.2       | 24.3     | 24.3       | 0.2           | 24.2       | 24.1     | 24.2       |
|             |                 | 75    | 0                | 0.6          | 211           | 212        | 212      | 10         | 211           | 212        | 212      | 10         | 24.2          | 24.3       | 24.2     | 0.2        | 24.1          | 24.2       | 24.2     |            |
|             |                 | 16QAM | 1                | 0            | 0.6           | 212        | 212      | 211        | 10            | 212        | 211      | 212        | 10            | 24.3       | 24.3     | 24.3       | 0.2           | 24.1       | 24.2     | 24.2       |
|             |                 |       | 1                | 36           | 0.6           | 212        | 212      | 212        | 10            | 212        | 212      | 212        | 10            | 24.2       | 24.3     | 24.2       | 0.2           | 24.2       | 24.2     | 24.2       |
|             |                 |       | 1                | 74           | 0.6           | 212        | 212      | 212        | 10            | 212        | 211      | 212        | 10            | 24.2       | 24.3     | 24.3       | 0.2           | 24.2       | 24.1     | 24.2       |
|             |                 |       | 36               | 0            | 16            | 19.2       | 19.1     | 19.1       | 2.0           | 20.2       | 20.2     | 20.2       | 2.0           | 23.3       | 23.3     | 23.2       | 12            | 23.2       | 23.2     | 23.1       |
|             |                 |       | 36               | 18           | 16            | 19.2       | 19.2     | 19.2       | 2.0           | 20.2       | 20.1     | 20.2       | 2.0           | 23.2       | 23.3     | 23.2       | 12            | 23.2       | 23.1     | 23.2       |
|             |                 |       | 36               | 37           | 16            | 19.2       | 19.2     | 19.2       | 2.0           | 20.2       | 20.2     | 20.2       | 2.0           | 23.3       | 23.3     | 23.3       | 12            | 23.1       | 23.2     | 23.2       |
|             |                 | 75    | 0                | 16           | 19.1          | 19.2       | 19.2     | 2.0        | 20.2          | 20.1       | 20.1     | 2.0        | 23.3          | 23.3       | 23.3     | 12         | 23.1          | 23.1       | 23.2     |            |
|             |                 | 64QAM | 1                | 0            | 16            | 19.1       | 19.1     | 19.2       | 2.0           | 20.2       | 20.2     | 20.1       | 2.0           | 23.3       | 23.3     | 23.2       | 12            | 23.2       | 23.2     | 23.2       |
|             |                 |       | 1                | 36           | 16            | 19.2       | 19.2     | 19.2       | 2.0           | 20.2       | 20.2     | 20.2       | 2.0           | 23.2       | 23.2     | 23.2       | 12            | 23.2       | 23.1     | 23.2       |
|             |                 |       | 1                | 74           | 16            | 19.1       | 19.2     | 19.2       | 2.0           | 20.2       | 20.1     | 20.2       | 2.0           | 23.3       | 23.3     | 23.3       | 12            | 23.1       | 23.2     | 23.2       |
|             |                 |       | 36               | 0            | 2.6           | 18.2       | 18.2     | 18.2       | 3.0           | 19.2       | 19.2     | 19.2       | 3.0           | 22.3       | 22.3     | 22.3       | 2.2           | 22.1       | 22.2     | 22.2       |
|             | 36              |       | 18               | 2.6          | 18.2          | 18.2       | 18.2     | 3.0        | 19.2          | 19.1       | 19.2     | 3.0        | 22.2          | 22.3       | 22.2     | 2.2        | 22.2          | 22.2       | 22.1     |            |
|             | 36              |       | 37               | 2.6          | 18.1          | 18.1       | 18.2     | 3.0        | 19.2          | 19.1       | 19.2     | 3.0        | 22.2          | 22.3       | 22.2     | 2.2        | 22.2          | 22.2       | 22.1     |            |
| 75          | 0               | 2.6   | 18.2             | 18.1         | 18.2          | 3.0        | 19.2     | 19.2       | 19.2          | 3.0        | 22.3     | 22.2       | 22.2          | 2.2        | 22.2     | 22.1       | 22.2          |            |          |            |

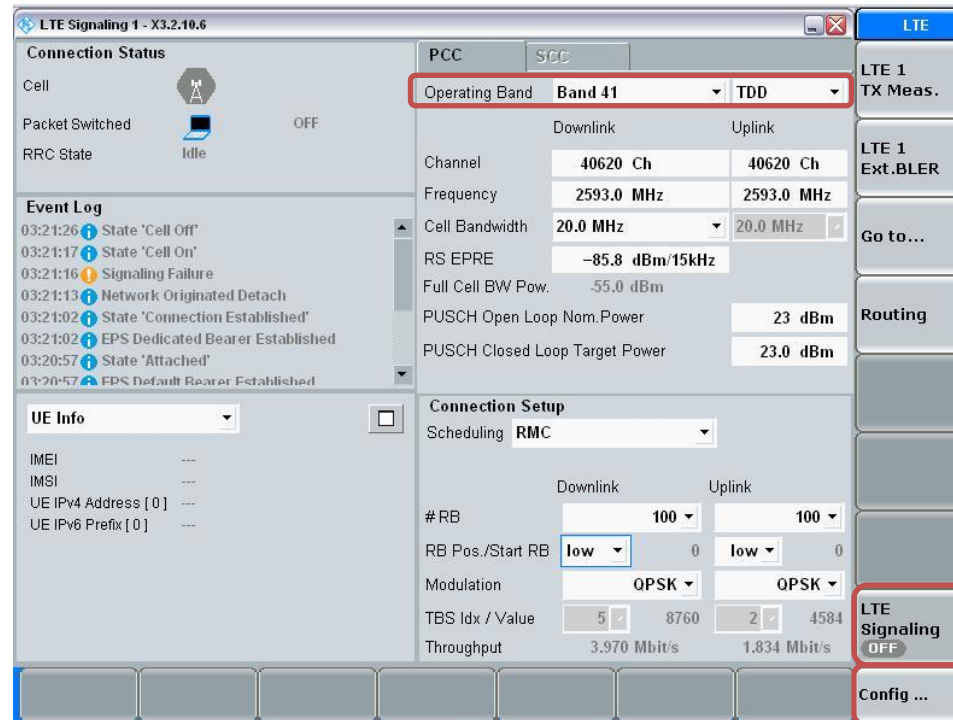
**LTE Band 66 Average Power (dBm) Measured Results (continued)**

| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MODE A     |          |          |          |            |          | MODE B   |          |            |          |          |          |
|-------------|----------|-------|---------------|-----------|------------|----------|----------|----------|------------|----------|----------|----------|------------|----------|----------|----------|
|             |          |       |               |           | Target MPR | UAT 1    |          |          | Target MPR | LAT 1    |          |          | Target MPR | UAT 1    |          |          |
|             |          |       |               |           |            | 1715 MHz | 1745 MHz | 1775 MHz |            | 1715 MHz | 1745 MHz | 1775 MHz |            | 1715 MHz | 1745 MHz | 1775 MHz |
| LTE Band 66 | 10       | QPSK  | 1             | 0         | 0          | 218      | 218      | 218      | 0.0        | 22.2     | 22.2     | 22.2     | 0.0        | 25.3     | 25.3     | 25.2     |
|             |          |       | 1             | 24        | 0          | 216      | 216      | 218      | 0.0        | 22.2     | 22.0     | 22.2     | 0.0        | 25.2     | 25.3     | 25.3     |
|             |          |       | 1             | 49        | 0          | 217      | 217      | 218      | 0.0        | 22.2     | 22.2     | 22.1     | 0.0        | 25.2     | 25.3     | 25.3     |
|             |          |       | 25            | 0         | 0.6        | 211      | 211      | 212      | 10         | 212      | 211      | 212      | 10         | 24.2     | 24.3     | 24.3     |
|             |          |       | 25            | 12        | 0.6        | 211      | 211      | 212      | 10         | 212      | 211      | 212      | 10         | 24.3     | 24.3     | 24.3     |
|             |          |       | 25            | 24        | 0.6        | 212      | 212      | 212      | 10         | 212      | 212      | 212      | 10         | 24.2     | 24.2     | 24.3     |
|             |          | 16QAM | 50            | 0         | 0.6        | 212      | 212      | 212      | 10         | 212      | 211      | 212      | 10         | 24.2     | 24.3     | 24.3     |
|             |          |       | 1             | 0         | 0.6        | 211      | 211      | 212      | 10         | 212      | 212      | 211      | 10         | 24.3     | 24.3     | 24.3     |
|             |          |       | 1             | 24        | 0.6        | 212      | 212      | 212      | 10         | 212      | 212      | 212      | 10         | 24.2     | 24.2     | 24.3     |
|             |          |       | 1             | 49        | 0.6        | 212      | 212      | 212      | 10         | 212      | 212      | 211      | 10         | 24.2     | 24.3     | 24.2     |
|             |          |       | 25            | 0         | 16         | 19.1     | 19.1     | 19.1     | 2.0        | 20.2     | 20.2     | 20.2     | 2.0        | 23.3     | 23.3     | 23.3     |
|             |          |       | 25            | 12        | 16         | 19.2     | 19.2     | 19.2     | 2.0        | 20.2     | 20.2     | 20.1     | 2.0        | 23.2     | 23.2     | 23.2     |
|             |          | 64QAM | 25            | 24        | 16         | 19.2     | 19.2     | 19.2     | 2.0        | 20.2     | 20.2     | 20.2     | 2.0        | 23.3     | 23.3     | 23.3     |
|             |          |       | 50            | 0         | 16         | 19.2     | 19.2     | 19.2     | 2.0        | 20.1     | 20.2     | 20.1     | 2.0        | 23.3     | 23.3     | 23.3     |
|             |          |       | 1             | 0         | 16         | 19.2     | 19.2     | 19.1     | 2.0        | 20.1     | 20.2     | 20.2     | 2.0        | 23.3     | 23.3     | 23.2     |
|             |          |       | 1             | 24        | 16         | 19.2     | 19.2     | 19.2     | 2.0        | 20.2     | 20.2     | 20.2     | 2.0        | 23.2     | 23.2     | 22.3     |
|             |          |       | 1             | 49        | 16         | 19.2     | 19.2     | 19.2     | 2.0        | 20.2     | 20.2     | 20.1     | 2.0        | 23.3     | 23.2     | 22.2     |
|             |          |       | 25            | 0         | 2.6        | 18.2     | 18.2     | 18.2     | 3.0        | 19.2     | 19.2     | 19.2     | 3.0        | 22.3     | 22.2     | 22.3     |
|             |          |       | 25            | 12        | 2.6        | 18.2     | 18.2     | 18.2     | 3.0        | 19.2     | 19.2     | 19.1     | 3.0        | 22.2     | 22.2     | 22.3     |
|             |          |       | 25            | 24        | 2.6        | 18.2     | 18.2     | 18.1     | 3.0        | 19.2     | 19.2     | 19.1     | 3.0        | 22.2     | 22.3     | 22.3     |
|             |          |       | 50            | 0         | 2.6        | 18.2     | 18.2     | 18.1     | 3.0        | 19.2     | 19.2     | 19.2     | 3.0        | 22.3     | 22.3     | 22.2     |
| LTE Band 66 | 5        | QPSK  | 1             | 0         | 0.0        | 218      | 218      | 218      | 0.0        | 22.2     | 22.2     | 22.2     | 0.0        | 25.3     | 25.2     | 25.3     |
|             |          |       | 1             | 12        | 0.0        | 216      | 216      | 216      | 0.0        | 22.0     | 22.2     | 22.2     | 0.0        | 25.3     | 25.3     | 25.2     |
|             |          |       | 1             | 24        | 0.0        | 217      | 217      | 217      | 0.0        | 22.2     | 22.1     | 22.2     | 0.0        | 25.3     | 25.3     | 25.2     |
|             |          |       | 12            | 0         | 0.6        | 211      | 211      | 211      | 10         | 211      | 212      | 212      | 10         | 24.3     | 24.3     | 24.2     |
|             |          |       | 12            | 7         | 0.6        | 211      | 211      | 211      | 10         | 211      | 212      | 212      | 10         | 24.3     | 24.3     | 24.3     |
|             |          |       | 12            | 13        | 0.6        | 212      | 212      | 212      | 10         | 212      | 212      | 212      | 10         | 24.2     | 24.3     | 24.2     |
|             |          | 16QAM | 25            | 0         | 0.6        | 212      | 212      | 212      | 10         | 211      | 212      | 212      | 10         | 24.3     | 24.3     | 24.2     |
|             |          |       | 1             | 0         | 0.6        | 211      | 211      | 211      | 10         | 212      | 211      | 212      | 10         | 24.3     | 24.3     | 24.3     |
|             |          |       | 1             | 12        | 0.6        | 212      | 212      | 212      | 10         | 212      | 212      | 212      | 10         | 24.2     | 24.3     | 24.2     |
|             |          |       | 1             | 24        | 0.6        | 212      | 212      | 212      | 10         | 212      | 211      | 212      | 10         | 24.3     | 24.3     | 24.2     |
|             |          |       | 12            | 0         | 16         | 19.1     | 19.1     | 19.1     | 2.0        | 20.2     | 20.2     | 20.2     | 2.0        | 23.3     | 23.3     | 23.3     |
|             |          |       | 12            | 7         | 16         | 19.2     | 19.2     | 19.2     | 2.0        | 20.2     | 20.1     | 20.2     | 2.0        | 23.2     | 23.3     | 23.2     |
|             |          | 64QAM | 12            | 13        | 16         | 19.2     | 19.2     | 19.2     | 2.0        | 20.2     | 20.2     | 20.2     | 2.0        | 23.3     | 23.3     | 23.3     |
|             |          |       | 25            | 0         | 16         | 19.2     | 19.2     | 19.2     | 2.0        | 20.2     | 20.1     | 20.1     | 2.0        | 23.3     | 23.3     | 23.3     |
|             |          |       | 1             | 0         | 16         | 19.2     | 19.2     | 19.2     | 2.0        | 20.2     | 20.2     | 20.1     | 2.0        | 23.3     | 23.3     | 23.3     |
|             |          |       | 1             | 12        | 16         | 19.2     | 19.2     | 19.2     | 2.0        | 20.2     | 20.2     | 20.2     | 2.0        | 23.2     | 23.2     | 23.2     |
|             |          |       | 1             | 24        | 16         | 19.2     | 19.2     | 19.2     | 2.0        | 20.2     | 20.1     | 20.2     | 2.0        | 23.2     | 23.3     | 23.3     |
|             |          |       | 12            | 0         | 2.6        | 18.2     | 18.2     | 18.2     | 3.0        | 19.2     | 19.2     | 19.2     | 3.0        | 22.2     | 22.3     | 22.3     |
|             |          |       | 12            | 7         | 2.6        | 18.2     | 18.2     | 18.2     | 3.0        | 19.2     | 19.1     | 19.1     | 3.0        | 22.2     | 22.3     | 22.2     |
|             |          |       | 12            | 13        | 2.6        | 18.2     | 18.2     | 18.2     | 3.0        | 19.2     | 19.1     | 19.2     | 3.0        | 22.3     | 22.3     | 22.2     |
|             |          |       | 25            | 0         | 2.6        | 18.2     | 18.2     | 18.2     | 3.0        | 19.2     | 19.1     | 19.1     | 3.0        | 22.3     | 22.2     | 22.3     |

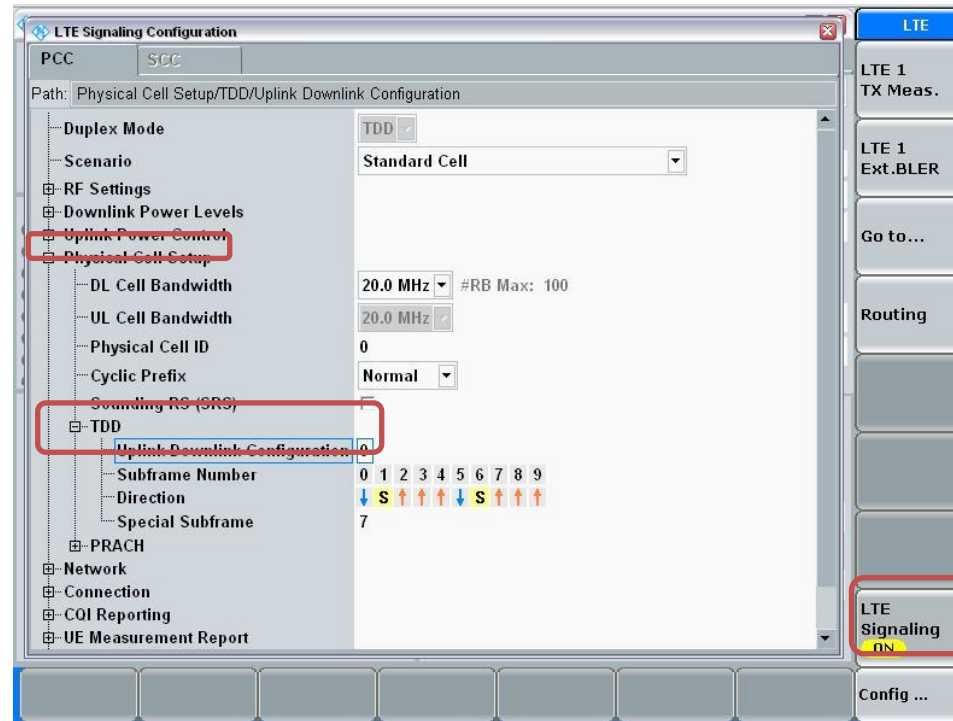
**LTE Band 41 Measured Results****Procedure used to establish SAR test signal for LTE TDD Band 41**

Set to CMW-500 with following parameters:

- Turn the LTE Signaling off using “ON | OFF” key
- Operating Band: Select Band 41 and TDD
- Go to “Config....”

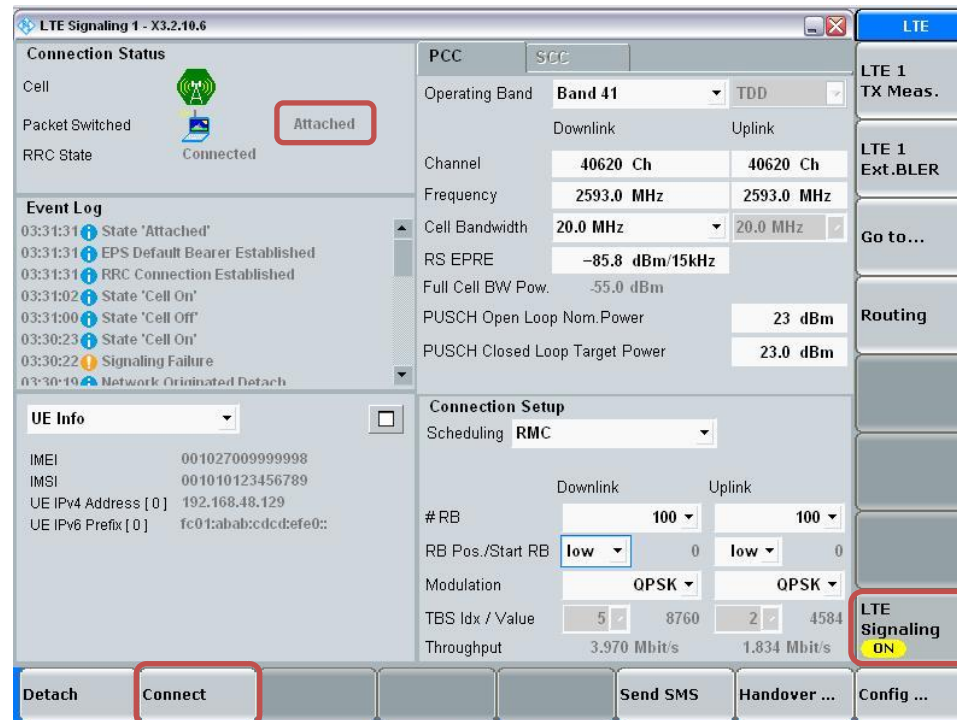


- Go to "Physical Cell Setup"
- Select "TDD" and Set "Uplink Downlink Configuration" to "0"
- Turn the cell on using "ON | OFF" key



**Connect to EUT**

- Turn the cell on using “ON | OFF” key
- After EUT is Attached
- Select “Connect”



**Max Power Setting**

- Select "LTE 1 TX Meas."
- Press "RESTART | STOP" Soft key

**LTE Signaling 1 - X3.2.10.6**

**Connection Status**

Cell: Connection Established

Packet Switched: Connected

RRC State: Connected

**Event Log**

- 03:33:07 State 'Connection Established'
- 03:33:07 EPS Dedicated Bearer Established
- 03:31:31 State 'Attached'
- 03:31:31 EPS Default Bearer Established
- 03:31:31 RRC Connection Established
- 03:31:02 State 'Cell On'
- 03:31:00 State 'Cell Off'
- 03:30:23 State 'Cell On'

**UE Info**

IMEI: 00102700999998

IMSI: 001010123456789

UE IPv4 Address [0]: 192.168.48.129

UE IPv6 Prefix [0]: fc01:abab:cdcd:efe0::

**Connection Setup**

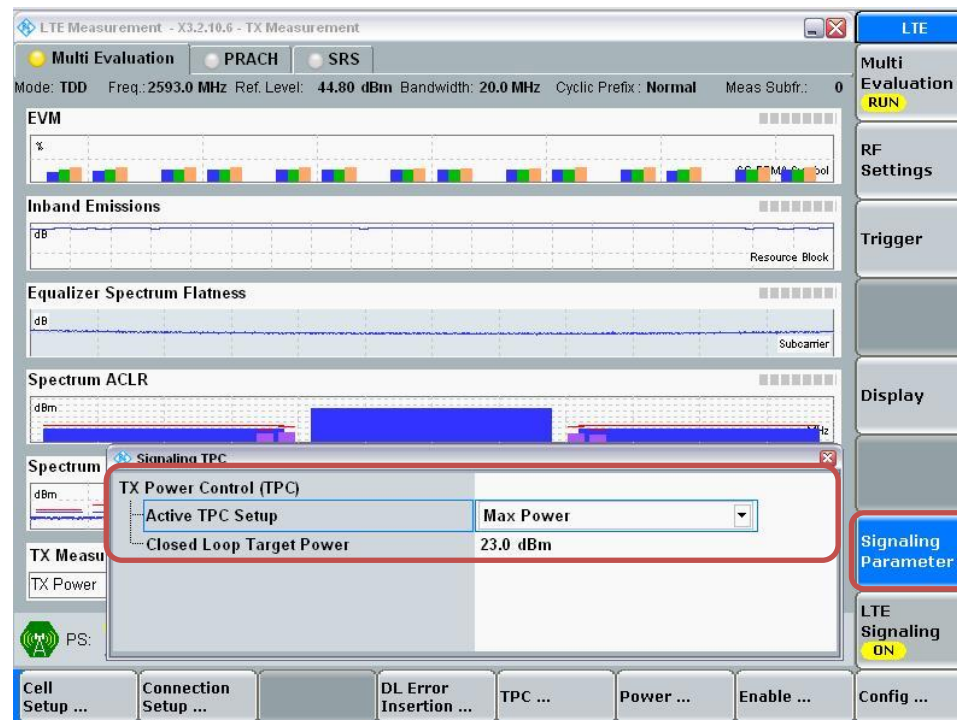
Scheduling: **RMC**

|                                | Downlink        | Uplink       |
|--------------------------------|-----------------|--------------|
| Operating Band                 | Band 41         | TDD          |
| Channel                        | 40620 Ch        | 40620 Ch     |
| Frequency                      | 2593.0 MHz      | 2593.0 MHz   |
| Cell Bandwidth                 | 20.0 MHz        | 20.0 MHz     |
| RS EPRE                        | -85.8 dBm/15kHz |              |
| Full Cell BW Pow.              | -55.0 dBm       |              |
| PUSCH Open Loop Nom.Power      |                 | 23 dBm       |
| PUSCH Closed Loop Target Power |                 | 23.0 dBm     |
| # RB                           | 100             | 100          |
| RB Pos./Start RB               | low             | low          |
| Modulation                     | QPSK            | QPSK         |
| TBS Idx / Value                | 5 / 8760        | 2 / 4584     |
| Throughput                     | 3.970 Mbit/s    | 1.834 Mbit/s |

**Buttons:** Detach, Disconnect, Send SMS, Handover ..., Config ...

**Right Panel:** LTE, LTE 1 TX Meas., LTE 1 Ext.BLER, Go to..., Routing, LTE Signaling ON

- Select “Signaling Parameter”
- Select “TX Power Control (TPC)” > Select “Active TPC Setup” to “Max Power” > Set “Closed Loop Target Power” to “23 dBm”



**View TX Power**

- Go to “Display”
- Select “Select View...”
- Select “Spectrum Emission Mask”



**LTE Band 41 Measured Results**

| Band        | BW<br>(MHz)     | Mode  | RB Allocation | RB<br>offset | MODE A        |          |            |          |            |               |          |          |            |          | MODE B        |            |          |          |            |               |          |            |          |          |            |          |            |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|-------------|-----------------|-------|---------------|--------------|---------------|----------|------------|----------|------------|---------------|----------|----------|------------|----------|---------------|------------|----------|----------|------------|---------------|----------|------------|----------|----------|------------|----------|------------|----------|--|--|--|--|--|--|------|--|--|--|--|--|--|--|--|--|
|             |                 |       |               |              | Target<br>MPR | UAT 1    |            |          |            | Target<br>MPR | LAT 1    |          |            |          | Target<br>MPR | UAT 1      |          |          |            | Target<br>MPR | LAT 1    |            |          |          |            |          |            |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 |       |               |              |               | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz |               | 2680 MHz | 2506 MHz | 2549.5 MHz | 2593 MHz |               | 2636.5 MHz | 2680 MHz | 2506 MHz | 2549.5 MHz |               | 2593 MHz | 2636.5 MHz | 2680 MHz | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| LTE Band 41 | Max Power (dBm) |       |               |              | 21.3          |          |            |          |            |               |          |          |            |          | 21.4          |            |          |          |            |               |          |            |          |          | 25.3       |          |            |          |  |  |  |  |  |  | 23.3 |  |  |  |  |  |  |  |  |  |
|             | QPSK            | 1     | 0             | 0.0          | 212           | 212      | 212        | 213      | 213        | 0.0           | 214      | 214      | 214        | 214      | 214           | 0.0        | 25.0     | 25.0     | 25.3       | 25.1          | 25.0     | 0.0        | 23.3     | 23.3     | 23.3       | 23.3     | 23.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 1     | 49            | 0.0          | 212           | 212      | 212        | 213      | 213        | 0.0           | 214      | 214      | 214        | 214      | 214           | 0.0        | 25.1     | 25.0     | 25.3       | 25.1          | 25.1     | 0.0        | 23.3     | 23.2     | 23.3       | 23.3     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 1     | 99            | 0.0          | 212           | 212      | 212        | 213      | 213        | 0.0           | 214      | 214      | 214        | 214      | 214           | 0.0        | 25.1     | 25.0     | 25.3       | 25.1          | 25.1     | 0.0        | 23.3     | 23.3     | 23.3       | 23.3     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 50    | 0             | 0.9          | 20.2          | 20.3     | 20.4       | 20.4     | 20.3       | 1.0           | 20.4     | 20.4     | 20.4       | 20.4     | 20.4          | 1.0        | 24.3     | 24.2     | 24.3       | 24.3          | 24.2     | 0.0        | 23.3     | 23.2     | 23.3       | 23.3     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 50    | 24            | 0.9          | 20.2          | 20.3     | 20.4       | 20.4     | 20.3       | 1.0           | 20.4     | 20.4     | 20.4       | 20.4     | 20.4          | 1.0        | 24.2     | 24.2     | 24.3       | 24.2          | 24.3     | 0.0        | 23.3     | 23.3     | 23.3       | 23.3     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 50    | 49            | 0.9          | 20.2          | 20.3     | 20.4       | 20.4     | 20.3       | 1.0           | 20.4     | 20.4     | 20.4       | 20.4     | 20.4          | 1.0        | 24.3     | 24.3     | 24.3       | 24.3          | 24.3     | 0.0        | 23.2     | 23.3     | 23.3       | 23.3     | 23.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 100   | 0             | 0.9          | 20.3          | 20.3     | 20.3       | 20.4     | 20.3       | 1.0           | 20.4     | 20.4     | 20.4       | 20.4     | 20.4          | 1.0        | 24.3     | 24.2     | 24.3       | 24.3          | 24.2     | 0.0        | 23.3     | 23.2     | 23.3       | 23.3     | 23.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 16QAM | 1             | 0            | 0.9           | 20.3     | 20.3       | 20.4     | 20.3       | 20.4          | 1.0      | 20.3     | 20.3       | 20.4     | 20.3          | 20.4       | 1.0      | 24.2     | 24.2       | 24.3          | 24.2     | 24.2       | 0.0      | 23.3     | 23.3       | 23.3     | 23.3       | 23.3     |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 |       | 1             | 49           | 0.9           | 20.4     | 20.3       | 20.3     | 20.4       | 20.3          | 1.0      | 20.4     | 20.4       | 20.4     | 20.3          | 20.4       | 1.0      | 24.2     | 24.3       | 24.2          | 24.3     | 24.3       | 0.0      | 23.2     | 23.3       | 23.3     | 23.3       | 23.3     |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 |       | 1             | 99           | 0.9           | 20.3     | 20.4       | 20.4     | 20.4       | 20.3          | 1.0      | 20.3     | 20.3       | 20.3     | 20.4          | 20.3       | 1.0      | 24.3     | 24.2       | 24.2          | 24.3     | 24.3       | 0.0      | 23.3     | 23.2       | 23.3     | 23.2       | 23.2     |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             | 50              |       | 0             | 1.9          | 19.3          | 19.4     | 19.4       | 19.3     | 19.3       | 2.0           | 19.4     | 19.3     | 19.4       | 19.4     | 19.3          | 2.0        | 23.3     | 23.3     | 23.3       | 23.3          | 23.3     | 0.0        | 23.3     | 23.3     | 23.3       | 23.3     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             | 50              |       | 24            | 1.9          | 19.4          | 19.3     | 19.3       | 19.4     | 19.4       | 2.0           | 19.4     | 19.3     | 19.4       | 19.4     | 19.3          | 2.0        | 23.2     | 23.3     | 23.2       | 23.3          | 23.3     | 0.0        | 23.3     | 23.3     | 23.3       | 23.2     | 23.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             | 50              |       | 49            | 1.9          | 19.3          | 19.3     | 19.4       | 19.3     | 19.3       | 2.0           | 19.4     | 19.4     | 19.4       | 19.4     | 19.3          | 2.0        | 23.2     | 23.2     | 23.2       | 23.2          | 23.3     | 0.0        | 23.3     | 23.3     | 23.3       | 23.3     | 23.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             | 100             |       | 0             | 1.9          | 19.4          | 19.3     | 19.4       | 19.3     | 19.4       | 2.0           | 19.4     | 19.4     | 19.4       | 19.4     | 19.3          | 2.0        | 23.3     | 23.3     | 23.3       | 23.3          | 23.3     | 0.0        | 23.3     | 23.2     | 23.3       | 23.3     | 23.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             | 64QAM           | 1     | 0             | 1.9          | 19.4          | 19.3     | 19.4       | 19.4     | 19.3       | 2.0           | 19.3     | 19.3     | 19.4       | 19.3     | 19.4          | 2.0        | 23.3     | 23.3     | 23.3       | 22.2          | 23.3     | 0.0        | 23.2     | 23.3     | 23.2       | 23.2     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 1     | 49            | 1.9          | 19.4          | 19.3     | 19.4       | 19.4     | 19.4       | 2.0           | 19.4     | 19.3     | 19.4       | 19.4     | 19.3          | 2.0        | 23.2     | 23.2     | 23.3       | 23.2          | 23.3     | 0.0        | 23.2     | 23.2     | 23.3       | 23.3     | 23.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 1     | 99            | 1.9          | 19.4          | 19.3     | 19.3       | 19.4     | 19.4       | 2.0           | 19.4     | 19.3     | 19.4       | 19.4     | 19.4          | 2.0        | 23.3     | 23.3     | 23.3       | 23.3          | 23.3     | 0.0        | 23.3     | 23.3     | 23.3       | 23.2     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 50    | 0             | 2.9          | 18.4          | 18.4     | 18.3       | 18.4     | 18.4       | 3.0           | 18.3     | 18.4     | 18.3       | 18.3     | 18.4          | 3.0        | 22.3     | 22.3     | 22.3       | 22.3          | 22.3     | 1.0        | 22.3     | 22.3     | 22.2       | 22.3     | 22.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 50    | 24            | 2.9          | 18.4          | 18.3     | 18.4       | 18.3     | 18.4       | 3.0           | 18.4     | 18.3     | 18.4       | 18.3     | 18.4          | 3.0        | 22.2     | 22.2     | 22.2       | 22.2          | 22.2     | 1.0        | 22.3     | 22.3     | 22.3       | 22.1     | 22.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 50    | 49            | 2.9          | 18.4          | 18.3     | 18.4       | 18.3     | 18.4       | 3.0           | 18.4     | 18.4     | 18.3       | 18.3     | 18.4          | 3.0        | 22.3     | 22.3     | 22.3       | 22.2          | 22.3     | 1.0        | 22.2     | 22.3     | 22.2       | 22.3     | 22.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 100   | 0             | 2.9          | 18.4          | 18.4     | 18.4       | 18.3     | 18.4       | 3.0           | 18.3     | 18.4     | 18.3       | 18.3     | 18.3          | 3.0        | 22.3     | 22.3     | 22.3       | 22.3          | 22.2     | 1.0        | 22.3     | 22.2     | 22.3       | 22.3     | 22.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
| LTE Band 41 | QPSK            | 1     | 0             | 0.0          | 212           | 212      | 212        | 213      | 212        | 0.0           | 213      | 213      | 212        | 213      | 213           | 0.0        | 25.0     | 25.0     | 25.1       | 25.0          | 25.0     | 0.0        | 23.2     | 23.3     | 23.3       | 23.2     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 1     | 36            | 0.0          | 212           | 213      | 213        | 213      | 213        | 0.0           | 212      | 212      | 213        | 212      | 213           | 0.0        | 25.0     | 25.0     | 25.1       | 25.1          | 25.1     | 0.0        | 23.3     | 23.3     | 23.2       | 23.3     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 1     | 74            | 0.0          | 212           | 212      | 213        | 213      | 213        | 0.0           | 213      | 213      | 213        | 213      | 212           | 0.0        | 25.0     | 25.0     | 25.1       | 25.1          | 25.1     | 0.0        | 23.3     | 23.3     | 23.3       | 23.3     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 36    | 0             | 0.9          | 20.3          | 20.3     | 20.4       | 20.4     | 20.3       | 1.0           | 20.3     | 20.3     | 20.4       | 20.3     | 20.4          | 1.0        | 24.2     | 24.2     | 24.3       | 24.2          | 24.2     | 0.0        | 23.2     | 23.3     | 23.2       | 23.3     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 36    | 18            | 0.9          | 20.2          | 20.3     | 20.4       | 20.4     | 20.3       | 1.0           | 20.2     | 20.3     | 20.4       | 20.2     | 20.3          | 1.0        | 24.2     | 24.2     | 24.2       | 24.3          | 24.3     | 0.0        | 23.3     | 23.3     | 23.3       | 23.3     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 36    | 37            | 0.9          | 20.3          | 20.4     | 20.3       | 20.4     | 20.3       | 1.0           | 20.3     | 20.4     | 20.3       | 20.4     | 20.3          | 1.0        | 24.3     | 24.3     | 24.3       | 24.3          | 24.3     | 0.0        | 23.3     | 23.3     | 23.3       | 23.2     | 23.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 75    | 0             | 0.9          | 20.3          | 20.3     | 20.4       | 20.3     | 20.3       | 1.0           | 20.3     | 20.4     | 20.4       | 20.3     | 20.4          | 1.0        | 24.2     | 24.2     | 24.3       | 24.2          | 24.2     | 0.0        | 23.3     | 23.3     | 23.2       | 23.2     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 16QAM | 1             | 0            | 0.9           | 20.3     | 20.3       | 20.4     | 20.3       | 20.4          | 1.0      | 20.3     | 20.3       | 20.3     | 20.3          | 20.4       | 1.0      | 24.2     | 24.2       | 24.2          | 24.2     | 24.2       | 0.0      | 23.3     | 23.3       | 23.3     | 23.3       | 23.3     |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 |       | 1             | 36           | 0.9           | 20.4     | 20.3       | 20.3     | 20.4       | 20.4          | 1.0      | 20.4     | 20.4       | 20.4     | 20.4          | 20.4       | 1.0      | 24.3     | 24.3       | 24.3          | 24.3     | 24.3       | 0.0      | 23.3     | 23.3       | 23.3     | 23.3       | 23.2     |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 |       | 1             | 74           | 0.9           | 20.3     | 20.4       | 20.4     | 20.4       | 20.3          | 1.0      | 20.3     | 20.3       | 20.4     | 20.3          | 20.3       | 1.0      | 24.2     | 24.2       | 24.3          | 24.3     | 24.3       | 0.0      | 23.3     | 23.2       | 23.2     | 23.2       | 23.3     |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             | 36              |       | 0             | 1.9          | 19.3          | 19.4     | 19.4       | 19.3     | 19.3       | 2.0           | 19.4     | 19.3     | 19.4       | 19.4     | 19.3          | 2.0        | 23.3     | 23.3     | 23.3       | 23.3          | 23.3     | 0.0        | 23.3     | 23.3     | 23.3       | 23.3     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             | 36              |       | 18            | 1.9          | 19.4          | 19.3     | 19.3       | 19.4     | 19.4       | 2.0           | 19.4     | 19.3     | 19.3       | 19.4     | 19.3          | 2.0        | 23.3     | 23.3     | 23.3       | 23.3          | 23.3     | 0.0        | 23.3     | 23.2     | 23.3       | 23.2     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             | 36              |       | 37            | 1.9          | 19.3          | 19.3     | 19.4       | 19.3     | 19.3       | 2.0           | 19.4     | 19.4     | 19.4       | 19.4     | 19.3          | 2.0        | 23.2     | 23.2     | 23.2       | 23.3          | 23.3     | 0.0        | 23.3     | 23.3     | 23.3       | 23.2     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             | 75              |       | 0             | 1.9          | 19.4          | 19.3     | 19.4       | 19.3     | 19.4       | 2.0           | 19.4     | 19.4     | 19.3       | 19.4     | 19.3          | 2.0        | 23.3     | 23.3     | 23.3       | 23.3          | 23.3     | 0.0        | 23.3     | 23.3     | 23.2       | 23.2     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             | 64QAM           | 1     | 0             | 1.9          | 19.3          | 19.4     | 19.4       | 19.3     | 19.4       | 2.0           | 19.3     | 19.3     | 19.3       | 19.4     | 19.4          | 2.0        | 23.3     | 23.3     | 22.2       | 23.3          | 23.3     | 0.0        | 23.2     | 23.2     | 23.3       | 23.3     | 23.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 1     | 36            | 1.9          | 19.3          | 19.3     | 19.4       | 19.4     | 19.4       | 2.0           | 19.4     | 19.3     | 19.4       | 19.4     | 19.3          | 2.0        | 23.3     | 23.2     | 23.2       | 23.3          | 23.3     | 0.0        | 23.3     | 23.3     | 23.2       | 23.2     | 23.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 1     | 74            | 1.9          | 19.4          | 19.3     | 19.3       | 19.3     | 19.4       | 2.0           | 19.4     | 19.3     | 19.3       | 19.4     | 19.4          | 2.0        | 23.3     | 23.3     | 23.3       | 23.2          | 23.3     | 0.0        | 23.3     | 23.2     | 23.3       | 23.3     | 23.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 36    | 0             | 2.9          | 18.4          | 18.3     | 18.3       | 18.4     | 18.4       | 3.0           | 18.3     | 18.4     | 18.3       | 18.3     | 18.4          | 3.0        | 22.3     | 22.3     | 22.3       | 22.3          | 22.3     | 1.0        | 22.2     | 22.3     | 22.3       | 22.2     | 22.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 36    | 18            | 2.9          | 18.4          | 18.3     | 18.3       | 18.3     | 18.4       | 3.0           | 18.4     | 18.3     | 18.3       | 18.4     | 18.4          | 3.0        | 22.2     | 22.2     | 22.3       | 22.3          | 22.2     | 1.0        | 22.3     | 22.1     | 22.3       | 22.3     | 22.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 36    | 37            | 2.9          | 18.4          | 18.3     | 18.3       | 18.4     | 18.3       | 3.0           | 18.4     | 18.4     | 18.3       | 18.3     | 18.4          | 3.0        | 22.2     | 22.3     | 22.2       | 22.3          | 22.3     | 1.0        | 22.2     | 22.3     | 22.3       | 22.2     | 22.2       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |
|             |                 | 75    | 0             | 2.9          | 18.4          | 18.4     | 18.4       | 18.3     | 18.4       | 3.0           | 18.3     | 18.4     | 18.3       | 18.3     | 18.3          | 3.0        | 22.3     | 22.3     | 22.3       | 22.2          | 22.2     | 1.0        | 22.3     | 22.3     | 22.2       | 22.3     | 22.3       |          |  |  |  |  |  |  |      |  |  |  |  |  |  |  |  |  |

**LTE Band 41 Measured Results (continued)**

| Band        | BW<br>(MHz) | Mode  | RB Allocation | RB<br>offset | MODE A        |          |            |          |            |          |               |          |            |          | MODE B     |          |               |          |            |          |            |          |               |          |            |          |            |          |
|-------------|-------------|-------|---------------|--------------|---------------|----------|------------|----------|------------|----------|---------------|----------|------------|----------|------------|----------|---------------|----------|------------|----------|------------|----------|---------------|----------|------------|----------|------------|----------|
|             |             |       |               |              | Target<br>MPR | UAT 1    |            |          |            |          | Target<br>MPR | LAT 1    |            |          |            |          | Target<br>MPR | UAT 1    |            |          |            |          | Target<br>MPR | LAT 1    |            |          |            |          |
|             |             |       |               |              |               | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |               | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |               | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |               | 2506 MHz | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |
| LTE Band 41 | 10          | QPSK  | 1             | 0            | 0.0           | 212      | 212        | 212      | 213        | 212      | 0.0           | 213      | 212        | 212      | 213        | 0.0      | 25.0          | 25.1     | 25.0       | 25.1     | 25.0       | 0.0      | 23.3          | 23.3     | 23.3       | 23.2     | 23.2       |          |
|             |             |       | 1             | 24           | 0.0           | 212      | 212        | 212      | 213        | 213      | 0.0           | 212      | 213        | 212      | 213        | 212      | 0.0           | 25.0     | 25.1       | 25.1     | 25.1       | 25.0     | 0.0           | 23.2     | 23.2       | 23.1     | 23.3       | 23.3     |
|             |             |       | 1             | 49           | 0.0           | 212      | 212        | 213      | 213        | 213      | 0.0           | 213      | 213        | 213      | 213        | 213      | 0.0           | 25.1     | 25.1       | 25.1     | 25.1       | 25.0     | 0.0           | 23.3     | 23.3       | 23.3     | 23.3       | 23.3     |
|             |             |       | 25            | 0            | 0.9           | 20.3     | 20.3       | 20.4     | 20.4       | 20.3     | 1.0           | 20.3     | 20.4       | 20.3     | 20.4       | 20.3     | 1.0           | 24.3     | 24.3       | 24.2     | 24.3       | 24.2     | 0.0           | 23.2     | 23.3       | 23.3     | 23.3       | 23.2     |
|             |             |       | 25            | 12           | 0.9           | 20.2     | 20.3       | 20.4     | 20.4       | 20.3     | 1.0           | 20.2     | 20.4       | 20.4     | 20.4       | 20.2     | 1.0           | 24.2     | 24.2       | 24.3     | 24.2       | 24.2     | 0.0           | 23.3     | 23.3       | 23.3     | 23.3       | 23.3     |
|             |             |       | 25            | 24           | 0.9           | 20.3     | 20.4       | 20.3     | 20.4       | 20.3     | 1.0           | 20.3     | 20.3       | 20.4     | 20.3       | 20.4     | 1.0           | 24.3     | 24.3       | 24.3     | 24.3       | 24.3     | 0.0           | 23.3     | 23.2       | 23.3     | 23.2       | 23.3     |
|             |             | 16QAM | 50            | 0            | 0.9           | 20.3     | 20.3       | 20.3     | 20.4       | 20.3     | 1.0           | 20.3     | 20.4       | 20.3     | 20.4       | 20.3     | 1.0           | 24.3     | 24.3       | 24.2     | 24.3       | 24.2     | 0.0           | 23.2     | 23.3       | 23.3     | 23.2       | 23.3     |
|             |             |       | 1             | 0            | 0.9           | 20.3     | 20.3       | 20.4     | 20.3       | 20.4     | 1.0           | 20.3     | 20.3       | 20.4     | 20.3       | 20.3     | 1.0           | 24.2     | 24.2       | 24.2     | 24.2       | 24.2     | 0.0           | 23.3     | 23.3       | 23.3     | 23.2       | 23.3     |
|             |             |       | 1             | 24           | 0.9           | 20.4     | 20.3       | 20.3     | 20.4       | 20.3     | 1.0           | 20.4     | 20.4       | 20.4     | 20.3       | 20.4     | 1.0           | 24.2     | 24.3       | 24.3     | 24.3       | 24.3     | 0.0           | 23.3     | 23.2       | 23.3     | 23.3       | 23.3     |
|             |             |       | 1             | 49           | 0.9           | 20.3     | 20.4       | 20.4     | 20.4       | 20.3     | 1.0           | 20.3     | 20.4       | 20.3     | 20.4       | 20.3     | 1.0           | 24.3     | 24.3       | 24.3     | 24.3       | 24.2     | 0.0           | 23.2     | 23.3       | 23.2     | 23.3       | 23.3     |
|             |             |       | 25            | 0            | 1.9           | 19.3     | 19.4       | 19.4     | 19.3       | 19.3     | 2.0           | 19.4     | 19.4       | 19.4     | 19.4       | 19.4     | 2.0           | 23.3     | 23.3       | 23.3     | 23.3       | 23.3     | 0.0           | 23.3     | 23.3       | 23.3     | 23.3       | 23.3     |
|             |             |       | 25            | 12           | 1.9           | 19.4     | 19.3       | 19.3     | 19.4       | 19.4     | 2.0           | 19.4     | 19.3       | 19.4     | 19.4       | 19.4     | 2.0           | 23.2     | 23.3       | 23.3     | 23.3       | 23.3     | 0.0           | 23.3     | 23.3       | 23.2     | 23.3       | 23.3     |
|             |             | 64QAM | 25            | 24           | 1.9           | 19.3     | 19.3       | 19.4     | 19.3       | 19.3     | 2.0           | 19.4     | 19.4       | 19.4     | 19.4       | 19.4     | 2.0           | 23.2     | 23.2       | 23.3     | 23.2       | 23.2     | 0.0           | 23.3     | 23.3       | 23.3     | 23.2       | 23.3     |
|             |             |       | 50            | 0            | 1.9           | 19.4     | 19.3       | 19.4     | 19.3       | 19.4     | 2.0           | 19.4     | 19.3       | 19.4     | 19.4       | 19.4     | 2.0           | 23.3     | 23.3       | 23.3     | 23.3       | 23.3     | 0.0           | 23.2     | 23.3       | 23.3     | 23.2       | 23.3     |
|             |             |       | 1             | 0            | 1.9           | 19.4     | 19.3       | 19.4     | 19.4       | 19.3     | 2.0           | 19.3     | 19.3       | 19.4     | 19.3       | 19.4     | 2.0           | 23.3     | 22.2       | 23.3     | 22.2       | 23.3     | 0.0           | 23.3     | 23.2       | 23.2     | 23.3       | 23.2     |
|             |             |       | 1             | 24           | 1.9           | 19.4     | 19.3       | 19.4     | 19.4       | 19.4     | 2.0           | 19.4     | 19.4       | 19.4     | 19.4       | 19.4     | 2.0           | 23.2     | 23.2       | 23.3     | 23.2       | 23.3     | 0.0           | 23.2     | 23.2       | 23.3     | 23.2       | 23.3     |
|             |             |       | 1             | 49           | 1.9           | 19.4     | 19.3       | 19.3     | 19.4       | 19.4     | 2.0           | 19.4     | 19.4       | 19.4     | 19.4       | 19.4     | 2.0           | 23.3     | 23.3       | 23.2     | 23.3       | 23.3     | 0.0           | 23.3     | 23.3       | 23.2     | 23.3       | 23.3     |
|             |             |       | 25            | 0            | 2.9           | 18.4     | 18.4       | 18.3     | 18.4       | 18.4     | 3.0           | 18.3     | 18.3       | 18.3     | 18.3       | 18.3     | 3.0           | 22.3     | 22.3       | 22.3     | 22.3       | 22.3     | 1.0           | 22.3     | 22.3       | 22.3     | 22.2       | 22.2     |
|             |             |       | 25            | 12           | 2.9           | 18.4     | 18.3       | 18.4     | 18.3       | 18.4     | 3.0           | 18.4     | 18.3       | 18.4     | 18.3       | 18.4     | 3.0           | 22.2     | 22.3       | 22.3     | 22.2       | 22.2     | 1.0           | 22.3     | 22.3       | 22.1     | 22.3       | 22.3     |
|             |             |       | 25            | 24           | 2.9           | 18.4     | 18.3       | 18.4     | 18.3       | 18.4     | 3.0           | 18.4     | 18.3       | 18.3     | 18.4       | 18.3     | 3.0           | 22.3     | 22.2       | 22.3     | 22.2       | 22.2     | 1.0           | 22.3     | 22.2       | 22.3     | 22.2       | 22.2     |
|             |             |       | 50            | 0            | 2.9           | 18.4     | 18.4       | 18.4     | 18.3       | 18.4     | 3.0           | 18.3     | 18.3       | 18.3     | 18.3       | 18.3     | 3.0           | 22.3     | 22.3       | 22.2     | 22.3       | 22.3     | 1.0           | 22.2     | 22.3       | 22.3     | 22.3       | 22.3     |
| LTE Band 41 | 5           | QPSK  | 1             | 0            | 0.0           | 212      | 212        | 212      | 213        | 212      | 0.0           | 213      | 213        | 212      | 212        | 213      | 0.0           | 25.0     | 25.0       | 25.0     | 25.1       | 25.0     | 0.0           | 23.2     | 23.3       | 23.2     | 23.3       | 23.3     |
|             |             |       | 1             | 12           | 0.0           | 212      | 212        | 212      | 213        | 213      | 0.0           | 212      | 212        | 212      | 213        | 213      | 0.0           | 25.0     | 25.0       | 25.0     | 25.1       | 25.1     | 0.0           | 23.3     | 23.2       | 23.3     | 23.3       | 23.3     |
|             |             |       | 1             | 24           | 0.0           | 212      | 212        | 213      | 213        | 213      | 0.0           | 213      | 213        | 213      | 213        | 213      | 0.0           | 25.1     | 25.0       | 25.0     | 25.1       | 25.1     | 0.0           | 23.3     | 23.3       | 23.3     | 23.3       | 23.3     |
|             |             |       | 12            | 0            | 0.9           | 20.3     | 20.3       | 20.4     | 20.4       | 20.3     | 1.0           | 20.3     | 20.3       | 20.3     | 20.4       | 20.4     | 1.0           | 24.3     | 24.2       | 24.3     | 24.3       | 24.2     | 0.0           | 23.2     | 23.2       | 23.3     | 23.3       | 23.3     |
|             |             |       | 12            | 7            | 0.9           | 20.2     | 20.3       | 20.4     | 20.4       | 20.3     | 1.0           | 20.2     | 20.3       | 20.4     | 20.4       | 20.3     | 1.0           | 24.2     | 24.2       | 24.3     | 24.2       | 24.3     | 0.0           | 23.3     | 23.3       | 23.3     | 23.3       | 23.3     |
|             |             |       | 12            | 13           | 0.9           | 20.3     | 20.4       | 20.3     | 20.4       | 20.3     | 1.0           | 20.4     | 20.4       | 20.3     | 20.3       | 20.4     | 1.0           | 24.3     | 24.3       | 24.3     | 24.3       | 24.3     | 0.0           | 23.3     | 23.3       | 23.2     | 23.2       | 23.3     |
|             |             | 16QAM | 25            | 0            | 0.9           | 20.3     | 20.4       | 20.3     | 20.4       | 20.3     | 1.0           | 20.3     | 20.4       | 20.3     | 20.4       | 20.4     | 1.0           | 24.3     | 24.2       | 24.3     | 24.3       | 24.2     | 0.0           | 23.3     | 23.2       | 23.2     | 23.3       | 23.3     |
|             |             |       | 1             | 0            | 0.9           | 20.4     | 20.3       | 20.4     | 20.3       | 20.4     | 1.0           | 20.3     | 20.4       | 20.3     | 20.3       | 20.4     | 1.0           | 24.2     | 24.2       | 24.3     | 24.2       | 24.2     | 0.0           | 23.3     | 23.3       | 23.3     | 23.3       | 23.3     |
|             |             |       | 1             | 12           | 0.9           | 20.3     | 20.3       | 20.3     | 20.4       | 20.3     | 1.0           | 20.4     | 20.4       | 20.4     | 20.4       | 20.4     | 1.0           | 24.2     | 24.3       | 24.2     | 24.3       | 24.3     | 0.0           | 23.3     | 23.3       | 23.3     | 23.2       | 23.3     |
|             |             |       | 1             | 24           | 0.9           | 20.3     | 20.4       | 20.4     | 20.4       | 20.3     | 1.0           | 20.3     | 20.3       | 20.3     | 20.4       | 20.3     | 1.0           | 24.3     | 24.2       | 24.2     | 24.3       | 24.3     | 0.0           | 23.3     | 23.2       | 23.2     | 23.3       | 23.2     |
|             |             |       | 12            | 0            | 1.9           | 19.4     | 19.4       | 19.3     | 19.3       | 19.3     | 2.0           | 19.4     | 19.3       | 19.4     | 19.4       | 19.3     | 2.0           | 23.3     | 23.3       | 23.3     | 23.3       | 23.3     | 0.0           | 23.3     | 23.3       | 23.3     | 23.3       | 23.3     |
|             |             |       | 12            | 7            | 1.9           | 19.4     | 19.3       | 19.3     | 19.3       | 19.4     | 2.0           | 19.4     | 19.3       | 19.4     | 19.3       | 19.3     | 2.0           | 23.2     | 23.3       | 23.2     | 23.3       | 23.3     | 0.0           | 23.3     | 23.3       | 23.2     | 23.3       | 23.2     |
|             |             | 64QAM | 12            | 13           | 1.9           | 19.3     | 19.3       | 19.4     | 19.4       | 19.3     | 2.0           | 19.4     | 19.3       | 19.4     | 19.4       | 19.4     | 2.0           | 23.2     | 23.2       | 23.2     | 23.2       | 23.3     | 0.0           | 23.3     | 23.3       | 23.2     | 23.3       | 23.3     |
|             |             |       | 25            | 0            | 1.9           | 19.4     | 19.3       | 19.4     | 19.3       | 19.4     | 2.0           | 19.4     | 19.4       | 19.4     | 19.3       | 19.3     | 2.0           | 23.2     | 23.3       | 23.2     | 23.3       | 23.3     | 0.0           | 23.3     | 23.2       | 23.2     | 23.3       | 23.3     |
|             |             |       | 1             | 0            | 1.9           | 19.4     | 19.3       | 19.4     | 19.4       | 19.4     | 2.0           | 19.4     | 19.3       | 19.3     | 19.3       | 19.4     | 2.0           | 23.3     | 23.3       | 23.3     | 22.2       | 23.3     | 0.0           | 23.2     | 23.3       | 23.3     | 23.2       | 23.2     |
|             |             |       | 1             | 12           | 1.9           | 19.4     | 19.3       | 19.4     | 19.4       | 19.3     | 2.0           | 19.4     | 19.3       | 19.4     | 19.4       | 19.3     | 2.0           | 23.2     | 23.3       | 23.3     | 23.2       | 23.3     | 0.0           | 23.3     | 23.2       | 23.2     | 23.2       | 23.3     |
|             |             |       | 1             | 24           | 1.9           | 19.4     | 19.3       | 19.3     | 19.4       | 19.4     | 2.0           | 19.4     | 19.3       | 19.4     | 19.4       | 19.4     | 2.0           | 23.3     | 23.3       | 23.3     | 23.3       | 23.2     | 0.0           | 23.3     | 23.3       | 23.3     | 23.3       | 23.2     |
|             |             |       | 12            | 0            | 2.9           | 18.3     | 18.4       | 18.3     | 18.4       | 18.4     | 3.0           | 18.3     | 18.4       | 18.3     | 18.3       | 18.4     | 3.0           | 22.3     | 22.3       | 22.3     | 22.3       | 22.3     | 1.0           | 22.2     | 22.3       | 22.2     | 22.3       | 22.3     |
|             |             |       | 12            | 7            | 2.9           | 18.3     | 18.4       | 18.4     | 18.3       | 18.3     | 3.0           | 18.4     | 18.3       | 18.4     | 18.3       | 18.4     | 3.0           | 22.3     | 22.2       | 22.3     | 22.3       | 22.3     | 1.0           | 22.3     | 22.3       | 22.3     | 22.3       | 22.1     |
|             |             |       | 12            | 13           | 2.9           | 18.4     | 18.3       | 18.4     | 18.4       | 18.4     | 3.0           | 18.3     | 18.4       | 18.4     | 18.3       | 18.4     | 3.0           | 22.3     | 22.2       | 22.3     | 22.2       | 22.2     | 1.0           | 22.2     | 22.3       | 22.2     | 22.2       | 22.3     |
|             |             |       | 25            | 0            | 2.9           | 18.4     | 18.3       | 18.4     | 18.3       | 18.4     | 3.0           | 18.3     | 18.4       | 18.3     | 18.3       | 18.3     | 3.0           | 22.3     | 22.3       | 22.3     | 22.3       | 22.2     | 1.0           | 22.3     | 22.2       | 22.3     | 22.3       | 22.3     |

## 9.5. LTE Rel. 11 Carrier Aggregation

The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

For inter-band carrier aggregation with uplink assigned to one E-UTRA band (Table 5.6A-1), the requirements in subclause 6.2.3 apply.

For inter-band carrier aggregation with one component carrier per operating band and the uplink active in two E-UTRA bands, the requirements in subclause 6.2.3 apply for each uplink component carrier.

For intra-band contiguous carrier aggregation the allowed Maximum Power Reduction (MPR) for the maximum output power applicable to the DUT in table below. In case the modulation format is different on different component carriers then the MPR is determined by the rules applied to higher order of those modulations.

| Modulation | CA bandwidth Class B and C / Smallest Component Carrier Transmission Bandwidth Configuration |                                                              |                                                              |                                                              | MPR (dB) |
|------------|----------------------------------------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|--------------------------------------------------------------|----------|
|            | 25 RB                                                                                        | 50 RB                                                        | 75 RB                                                        | 100 RB                                                       |          |
| QPSK       | > 8 and $\leq$ 25                                                                            | > 12 and $\leq$ 50                                           | > 16 and $\leq$ 75                                           | > 18 and $\leq$ 100                                          | $\leq$ 1 |
| QPSK       | > 25                                                                                         | > 50                                                         | > 75                                                         | > 100                                                        | $\leq$ 2 |
| 16 QAM     | $\leq$ 8                                                                                     | $\leq$ 12                                                    | $\leq$ 16                                                    | $\leq$ 18                                                    | $\leq$ 1 |
| 16 QAM     | > 8 and $\leq$ 25                                                                            | > 12 and $\leq$ 50                                           | > 16 and $\leq$ 75                                           | > 18 and $\leq$ 100                                          | $\leq$ 2 |
| 16 QAM     | > 25                                                                                         | > 50                                                         | > 75                                                         | > 100                                                        | $\leq$ 3 |
| 64 QAM     | $\leq$ 8 and allocation wholly contained within a single CC                                  | $\leq$ 12 and allocation wholly contained within a single CC | $\leq$ 16 and allocation wholly contained within a single CC | $\leq$ 18 and allocation wholly contained within a single CC | $\leq$ 2 |
| 64 QAM     | > 8 or allocation extends across two CC's                                                    | > 12 or allocation extends across two CC's                   | > 16 or allocation extends across two CC's                   | > 18 or allocation extends across two CC's                   | $\leq$ 3 |

For PUCCH and SRS transmissions, the allowed MPR is according to that specified for PUSCH WPKD modulation for the corresponding transmission bandwidth.

For intra-band contiguous carrier aggregation bandwidth class C with non-contiguous resource allocation, the allowed Maximum Power Reduction (MPR) for the maximum output power in Table 6.2.2A-1 is specified as follows

$$\text{MPR} = \text{CEIL} \{ \min(M_A, M_{\text{IM5}}), 0.5 \}$$

Where  $M_A$  is defined as follows

$$M_A = \begin{array}{ll} 8.2 & ; 0 \leq A < 0.025 \\ 9.2 - 40A & ; 0.025 \leq A < 0.05 \\ 8 - 16A & ; 0.05 \leq A < 0.25 \\ 4.83 - 3.33A & ; 0.25 \leq A \leq 0.4 \\ 3.83 - 0.83A & ; 0.4 \leq A \leq 1 \end{array}$$

and  $M_{\text{IM5}}$  is defined as follows

$$M_{\text{IM5}} = \begin{array}{ll} 4.5 & ; \Delta_{\text{IM5}} < 1.5 * \text{BW}_{\text{Channel\_CA}} \\ 6.0 & ; 1.5 * \text{BW}_{\text{Channel\_CA}} \leq \Delta_{\text{IM5}} < \text{BW}_{\text{Channel\_CA}}/2 + \Delta f_{\text{ooB}} \\ M_A & ; \Delta_{\text{IM5}} \geq \text{BW}_{\text{Channel\_CA}}/2 + \Delta f_{\text{ooB}} \end{array}$$

Where

$$A = N_{\text{RB\_alloc}} / N_{\text{RB\_agg}}$$

$$\Delta_{\text{IM5}} = \max(|F_{\text{C\_agg}} - (3 * F_{\text{agg\_alloc\_low}} - 2 * F_{\text{agg\_alloc\_high}})|, |F_{\text{C\_agg}} - (3 * F_{\text{agg\_alloc\_high}} - 2 * F_{\text{agg\_alloc\_low}})|)$$

$\text{CEIL}\{M_A, 0.5\}$  means rounding upwards to closest 0.5dB, i.e.  $\text{MPR} \in [3.0, 3.5, 4.0, 4.5, 5.0, 5.5, 6.0, 6.5, 7.0, 7.5, 8.0, 8.5]$

For intra-band carrier aggregation, the MPR is evaluated per slot and given by the maximum value taken over the transmission(s) on all component carriers within the slot; the maximum MPR over the two slots is then applied for the entire subframe.

For intra-band non-contiguous carrier aggregation with one uplink carrier on the PCC, the requirements in the subclause 6.2.3 apply. For intra-band non-contiguous aggregation with two uplink carriers the MPR is defined for those E-UTRA bands where maximum possible  $W_{\text{GAP}} \leq 42.2$  MHz as follows

$$\text{MPR} = \text{CEIL}\{M_N, 0.5\}$$

Where  $M_N$  is defined as follows

$$M_N = \begin{array}{ll} -0.125N + 18.25 & ; 2 \leq N \leq 50 \\ -0.0333 N + 13.67 & ; 50 < N \leq 200 \end{array}$$

Where  $N = N_{\text{RB\_alloc}}$  is the number of allocated resource blocks.

For the UE maximum output power modified by MPR, the power limits specified in subclause 6.2.5A apply.

**LTE Carrier Aggregation Test Signal Set-up Procedure**

(Use normal LTE set-up procedure in addition with the following steps)

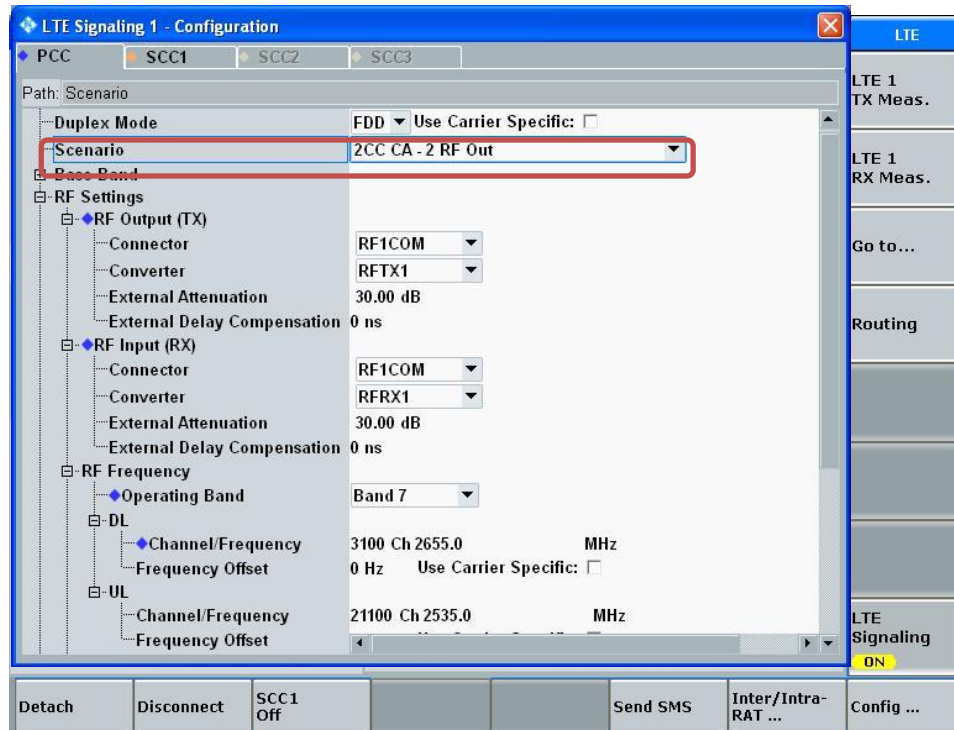
Set to CMW-500 with following parameters:

- PCC tab:
  - Select the testing Operating Band, Channel, Frequency, Cell Bandwidth, Uplink RBs

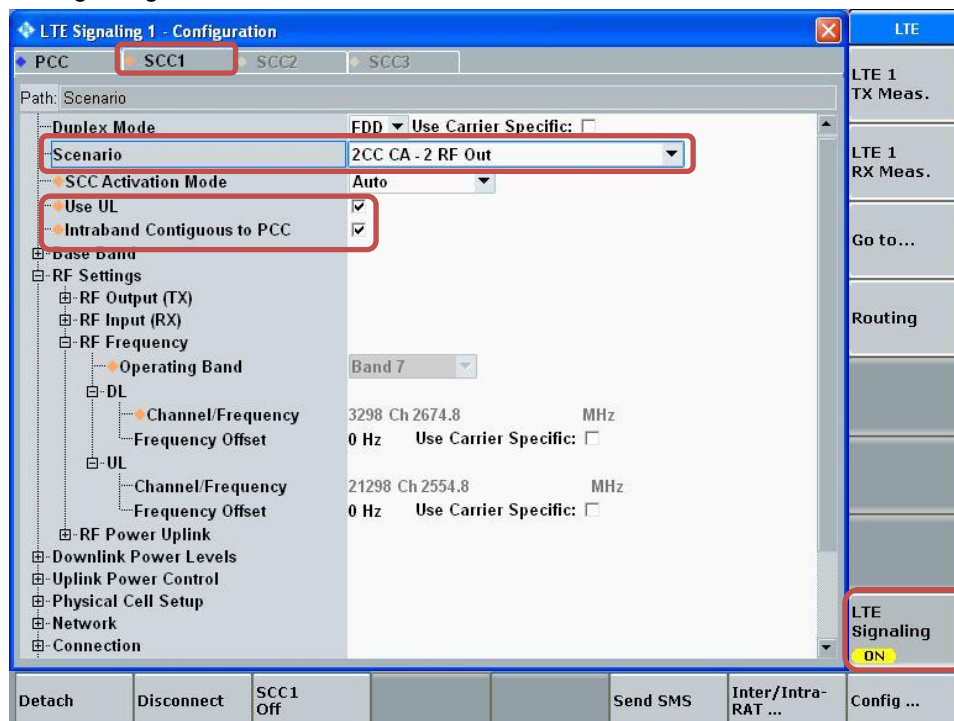
The screenshot displays the LTE Signaling 1 - V3.5.40 - Base V 3.5.90 interface. The PCC tab is active. The 'Operating Band' is set to 'Band 7'. The 'Channel' is '2850 Ch'. The 'Frequency' is '2630.0 MHz'. The 'Cell Bandwidth' is '20.0 MHz'. The 'Uplink' section shows '20850 Ch' and '2510.0 MHz'. The 'Downlink' section shows '23 dBm' and '33.0 dBm'. The 'Event Log' shows various events. The 'UE Info' section shows IMEI, IMSI, and other details. The 'LTE Signaling' section shows 'ON'. The 'Config ...' button is highlighted.

- Go to "Config...."

- Go to "Scenario"
- Set to "2CC CA - 2 RF Out"



- Select "SCC1" tab
- Go to "Scenario"
- Set to "2CC CA - 2 RF Out"
- Enable "Use UL"
- Enable "Intraband Contiguous to PCC"
- Select "LTE Signaling" button



- Select “SCC1” tab
  - Select the testing Cell Bandwidth, Uplink RBs

**LTE Signaling 1 - V3.5.40 - Base V 3.5.90**

**Connection Status**

Cell: Connection Established

Packet Switched: Connection Established

RRC State: Connected

SCC1 State: MAC Activated

**Event Log**

02:17:19 Redirection Successful

02:17:18 Tracking Area Update Received

02:17:18 RRC Connection Established

02:17:17 RRC Connection Released

02:17:16 Redirection Start

02:17:12 Redirection Successful

**UE Info**

IMEI: 359250065123018

IMSI: 001010000150503

Voice Domain Pr... IMS PS Voice preferred CS Voic

UE's Usage Settl... Voice centric

**Default Bearer** IPv4 address: 192.168.48.129 IPv6 pref: 0

**Dedicated Bearer** TFT Port Range DL / UL: 5005 - 5008 / 5005 - 5008

**Operating Band** Band 7 FDD

**Channel** 3048 Ch 21048 Ch

**Frequency** 2649.8 MHz 2529.8 MHz

**Cell Bandwidth** 20.0 MHz 20.0 MHz

**RS EPRE** -85.8 dBm/15kHz

**Full Cell BW Pow.** -55.0 dBm

**PUSCH Open Loop Nom.Power** 23 dBm

**PUSCH Closed Loop Target Power** 33.0 dBm

**Intraband Contiguous to PCC** ☒

**PCC <-> SCC1** Swap

**PCC -> SCC1** Copy

**Sched. User def. Channels** ☐ Multicenter UL

**#RB** Downlink: 100 Uplink: 100

**Start RB** Downlink: 0 Uplink: 0

**Mod / TBSI** Downlink: QPSK 5 Uplink: QPSK 10

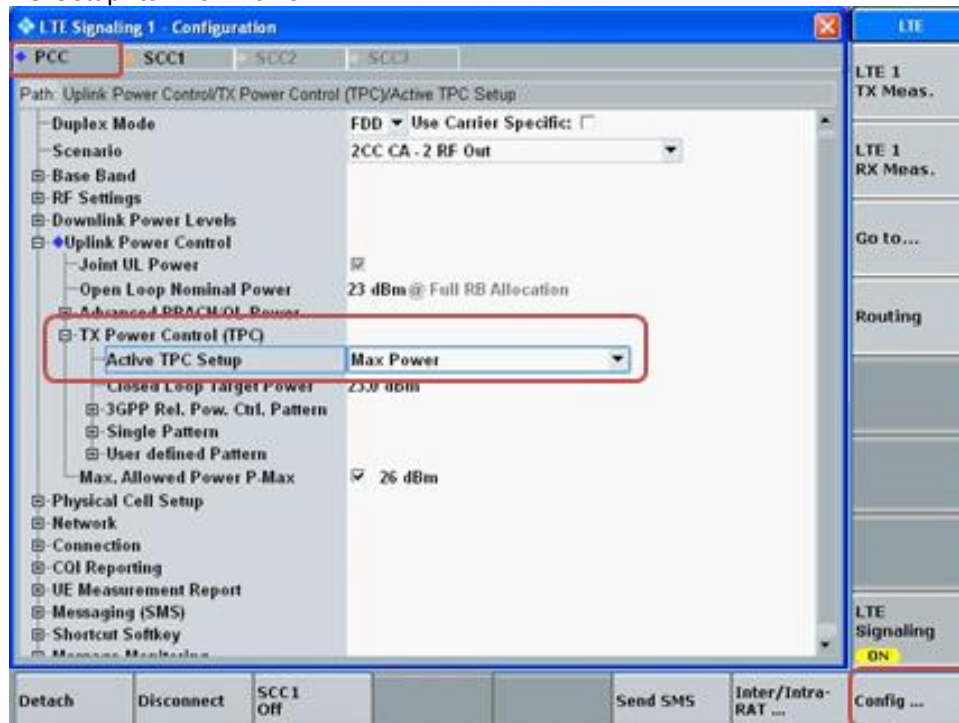
**Code Rate / TBS** Downlink: 0.320 8760 Uplink: 0.613 17568

**Throughput** Downlink: 8.760 Mbit/s Uplink: 17.568 Mbit/s

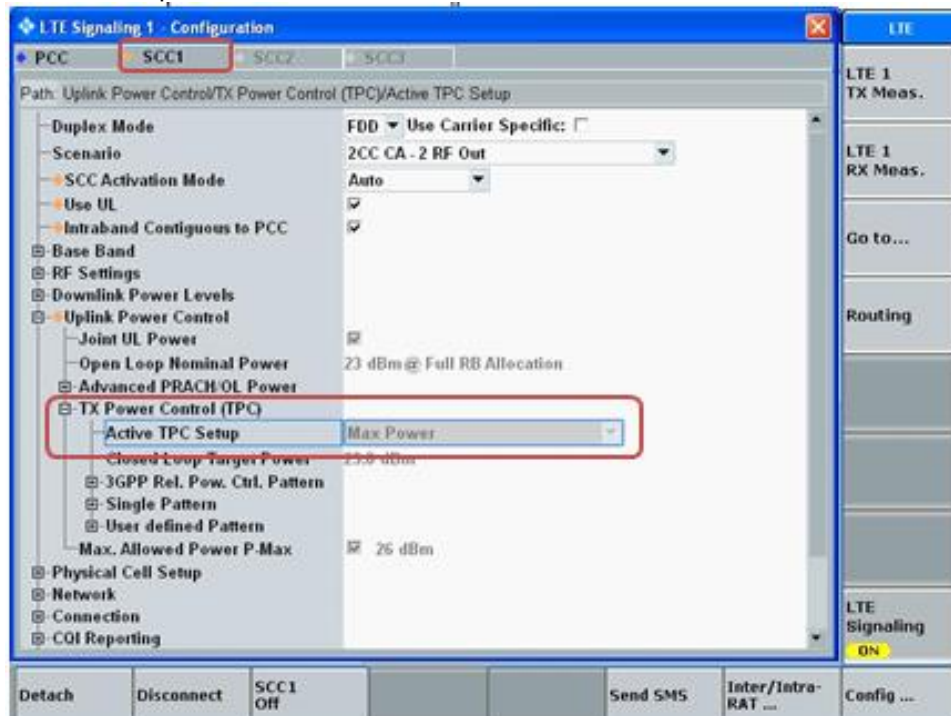
**Detach** **Disconnect** **SCC1 Off** **Send SMS** **Inter/Intra-RAT ...** **Config ...**

**Max Power Setting**

- Select “Config ...” button
- Select PCC tab
- Set “Active TPC Setup” to “Max Power”

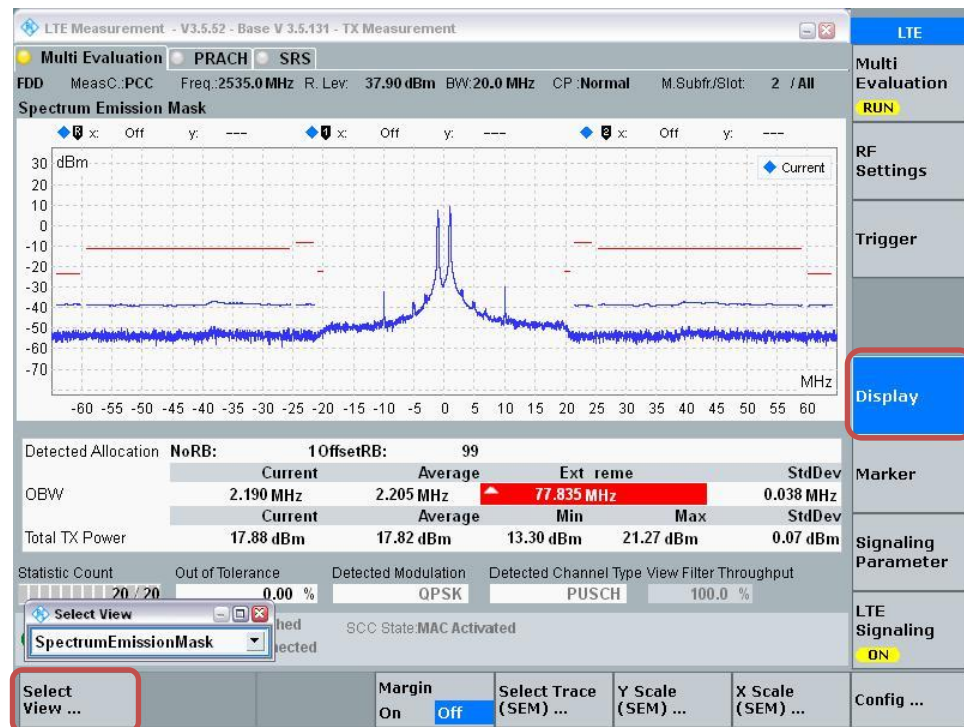


- Select SCC1 tab
- Verify that “Active TPC Setup” is set to “Max Power”



**View TX Power**

- Go to “Display”
- Select “Select View...”
- Select “Spectrum Emission Mask”



**LTE Advanced Carrier Aggregation Combinations:**

The tables below show the supported frequency bands and bandwidths of the device for DL Inter-band and DL Intra-band combinations.

**DL Inter-Band (2 Bands, 3CC Max)**

| E-UTRA CA configuration (BCS) | E-UTRA Band | Bandwidth        |       |       |        |        |        | Max Aggregated BW |
|-------------------------------|-------------|------------------|-------|-------|--------|--------|--------|-------------------|
|                               |             | 1.4 MHz          | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |                   |
| CA_2A-2A-5A (0)               | Band 2      | See CA_2A-2A (0) |       |       |        |        |        | 50 MHz            |
|                               | Band 5      |                  |       | Yes   | Yes    |        |        |                   |
| CA_2A-2A-12A (0)              | Band 2      | See CA_2A-2A (0) |       |       |        |        |        | 50 MHz            |
|                               | Band 12     |                  |       | Yes   | Yes    |        |        |                   |
| CA_2A-2A-13A (0)              | Band 2      | See CA_2A-2A (0) |       |       |        |        |        | 50 MHz            |
|                               | Band 13     |                  |       |       | Yes    |        |        |                   |
| CA_2A-2A-29A (0)              | Band 2      | See CA_2A-2A (0) |       |       |        |        |        | 50 MHz            |
|                               | Band 29     |                  |       | Yes   | Yes    |        |        |                   |
| CA_2A-2A-30A (0)              | Band 2      | See CA_2A-2A (0) |       |       |        |        |        | 50 MHz            |
|                               | Band 30     |                  |       | Yes   | Yes    |        |        |                   |
| CA-2A-4A (0) (1) (2)          | Band 2      | Yes              | Yes   | Yes   | Yes    | Yes    | Yes    | 40 MHz            |
|                               | Band 4      |                  |       | Yes   | Yes    | Yes    | Yes    |                   |
|                               | Band 2      |                  |       | Yes   | Yes    |        |        | 20 MHz            |
|                               | Band 4      |                  |       | Yes   | Yes    |        |        |                   |
|                               | Band 2      |                  |       | Yes   | Yes    | Yes    | Yes    | 40 MHz            |
|                               | Band 4      |                  |       | Yes   | Yes    | Yes    | Yes    |                   |
| CA_2A-5A (0) (1)              | Band 2      |                  |       | Yes   | Yes    | Yes    | Yes    | 30 MHz            |
|                               | Band 5      |                  |       | Yes   | Yes    |        |        |                   |
|                               | Band 2      |                  |       | Yes   | Yes    |        |        | 20 MHz            |
|                               | Band 5      |                  |       | Yes   | Yes    |        |        |                   |
| CA_2C-5A (0)                  | Band 2      | See CA_2C (0)    |       |       |        |        |        | 50 MHz            |
|                               | Band 5      |                  |       | Yes   | Yes    |        |        |                   |
| CA_2A-12A (0) (1) (2)         | Band 2      |                  |       | Yes   | Yes    | Yes    | Yes    | 30 MHz            |
|                               | Band 12     |                  |       | Yes   | Yes    |        |        |                   |
|                               | Band 2      |                  |       | Yes   | Yes    | Yes    | Yes    | 30 MHz            |
|                               | Band 12     |                  | Yes   | Yes   | Yes    |        |        |                   |
|                               | Band 2      |                  |       | Yes   | Yes    |        |        | 20 MHz            |
|                               | Band 12     |                  |       | Yes   | Yes    |        |        |                   |
| CA_2C-12A (0)                 | Band 2      | See CA_2C (0)    |       |       |        |        |        | 50 MHz            |
|                               | Band 12     |                  |       | Yes   | Yes    |        |        |                   |

|                       |         |                  |     |     |     |     |     |        |
|-----------------------|---------|------------------|-----|-----|-----|-----|-----|--------|
| CA-2A-12B (0)         | Band 2  |                  |     | Yes | Yes | Yes | Yes | 35 MHz |
|                       | Band 12 | See CA_12B (0)   |     |     |     |     |     |        |
| CA_2A-13A (0) (1)     | Band 2  |                  |     | Yes | Yes | Yes | Yes | 30 MHz |
|                       | Band 13 |                  |     |     | Yes |     |     |        |
|                       | Band 2  |                  |     | Yes | Yes |     |     | 20 MHz |
|                       | Band 13 |                  |     |     | Yes |     |     |        |
| CA_2A-17A (0)         | Band 2  |                  |     | Yes | Yes |     |     | 20 MHz |
|                       | Band 17 |                  |     | Yes | Yes |     |     |        |
| CA-2A-29A (0) (1) (2) | Band 2  |                  |     | Yes | Yes |     |     | 20 MHz |
|                       | Band 29 |                  | Yes | Yes | Yes |     |     |        |
|                       | Band 2  |                  |     | Yes | Yes |     |     | 20 MHz |
|                       | Band 29 |                  |     | Yes | Yes |     |     |        |
|                       | Band 2  |                  |     | Yes | Yes | Yes | Yes | 30 MHz |
|                       | Band 29 |                  |     | Yes | Yes |     |     |        |
| CA-2C-29A (0)         | Band 2  | See CA_2C (0)    |     |     |     |     |     | 50 MHz |
|                       | Band 29 |                  |     | Yes | Yes |     |     |        |
| CA_2A-30A (0)         | Band 2  |                  |     | Yes | Yes | Yes | Yes | 30 MHz |
|                       | Band 30 |                  |     | Yes | Yes |     |     |        |
| CA_2C-30A (0)         | Band 2  | See CA_2C (0)    |     |     |     |     |     | 50 MHz |
|                       | Band 30 |                  |     | Yes | Yes |     |     |        |
| CA_2A-66A (0) (1) (2) | Band 2  | Yes              | Yes | Yes | Yes | Yes | Yes | 40 MHz |
|                       | Band 66 |                  |     | Yes | Yes | Yes | Yes |        |
|                       | Band 2  |                  |     | Yes | Yes |     |     | 20 MHz |
|                       | Band 66 |                  |     | Yes | Yes |     |     |        |
|                       | Band 2  |                  |     | Yes | Yes | Yes | Yes | 40 MHz |
|                       | Band 66 |                  |     | Yes | Yes | Yes | Yes |        |
| CA_2A-66B (0)         | Band 2  |                  |     | Yes | Yes | Yes | Yes | 60 MHz |
|                       | Band 66 | See CA_66B (0)   |     |     |     |     |     |        |
| CA-2A-66C (0)         | Band 2  |                  |     | Yes | Yes | Yes | Yes | 60 MHz |
|                       | Band 66 | See CA_66C (0)   |     |     |     |     |     |        |
| CA_4A-4A-5A (0)       | Band 4  | See CA_4A-4A (0) |     |     |     |     |     | 50 MHz |
|                       | Band 5  |                  |     | Yes | Yes |     |     |        |
| CA_4A-4A-7A (0) (1)   | Band 4  |                  |     | Yes | Yes |     |     | 40 MHz |
|                       | Band 4  |                  |     | Yes | Yes |     |     |        |
|                       | Band 7  |                  |     | Yes | Yes | Yes | Yes | 60 MHz |
|                       | Band 4  |                  |     | Yes | Yes | Yes | Yes |        |

|                                   |         |                  |     |     |     |     |     |        |
|-----------------------------------|---------|------------------|-----|-----|-----|-----|-----|--------|
|                                   | Band 4  |                  |     | Yes | Yes | Yes | Yes |        |
|                                   | Band 7  |                  |     | Yes | Yes | Yes | Yes |        |
| CA_4A-4A-12A (0)                  | Band 4  | See CA_4A-4A (0) |     |     |     |     |     | 50 MHz |
|                                   | Band 12 |                  |     | Yes | Yes |     |     |        |
| CA_4A-4A-13A (0)                  | Band 4  | See CA_4A-4A (0) |     |     |     |     |     | 50 MHz |
|                                   | Band 13 |                  |     |     | Yes |     |     |        |
| CA_4A-4A-29A (0)                  | Band 4  | See CA_4A-4A (0) |     |     |     |     |     | 50 MHz |
|                                   | Band 29 |                  |     | Yes | Yes |     |     |        |
| CA_4A-4A-30A (0)                  | Band 4  | See CA_4A-4A (0) |     |     |     |     |     | 50 MHz |
|                                   | Band 30 |                  |     | Yes | Yes |     |     |        |
| CA_4A-5A (0) (1)                  | Band 4  |                  |     | Yes | Yes |     |     | 20 MHz |
|                                   | Band 5  |                  |     | Yes | Yes |     |     |        |
|                                   | Band 4  |                  |     | Yes | Yes | Yes | Yes | 30 MHz |
|                                   | Band 5  |                  |     | Yes | Yes |     |     |        |
| CA_4A-7A (0) (1)                  | Band 4  |                  |     | Yes | Yes |     |     | 30 MHz |
|                                   | Band 7  |                  |     | Yes | Yes | Yes | Yes |        |
|                                   | Band 4  |                  |     | Yes | Yes | Yes | Yes | 40 MHz |
|                                   | Band 7  |                  |     | Yes | Yes | Yes | Yes |        |
| CA_4A-12A (0) (1) (2) (3) (4) (5) | Band 4  | Yes              | Yes | Yes | Yes |     |     | 20 MHz |
|                                   | Band 12 |                  |     | Yes | Yes |     |     |        |
|                                   | Band 4  | Yes              | Yes | Yes | Yes | Yes | Yes | 30 MHz |
|                                   | Band 12 |                  |     | Yes | Yes |     |     |        |
|                                   | Band 4  |                  |     | Yes | Yes | Yes | Yes | 30 MHz |
|                                   | Band 12 |                  | Yes | Yes | Yes |     |     |        |
|                                   | Band 4  |                  |     | Yes | Yes |     |     | 20 MHz |
|                                   | Band 12 |                  |     | Yes | Yes |     |     |        |
|                                   | Band 4  |                  |     | Yes | Yes | Yes | Yes | 30 MHz |
|                                   | Band 12 |                  |     | Yes | Yes |     |     |        |
|                                   | Band 4  |                  |     | Yes | Yes | Yes |     | 20 MHz |
|                                   | Band 12 |                  |     | Yes |     |     |     |        |
| CA_4A-12B (0)                     | Band 4  |                  |     | Yes | Yes | Yes | Yes | 35 MHz |
|                                   | Band 12 | See CA_12B (0)   |     |     |     |     |     |        |
| CA_4A-13A (0) (1)                 | Band 4  |                  |     | Yes | Yes | Yes | Yes | 30 MHz |
|                                   | Band 13 |                  |     |     | Yes |     |     |        |
|                                   | Band 4  |                  |     | Yes | Yes |     |     | 20 MHz |

|                                    |         |     |     |     |     |     |     |        |
|------------------------------------|---------|-----|-----|-----|-----|-----|-----|--------|
|                                    | Band 13 |     |     |     | Yes |     |     |        |
| CA_4A-17A (0)                      | Band 4  |     |     | Yes | Yes |     |     | 20 MHz |
|                                    | Band 17 |     |     | Yes | Yes |     |     |        |
| CA_4A-29A (0) (1) (2)              | Band 4  |     |     | Yes | Yes |     |     | 20 MHz |
|                                    | Band 29 |     | Yes | Yes | Yes |     |     |        |
|                                    | Band 4  |     |     | Yes | Yes |     |     | 20 MHz |
|                                    | Band 29 |     |     | Yes | Yes |     |     |        |
|                                    | Band 4  |     |     | Yes | Yes | Yes | Yes | 30 MHz |
|                                    | Band 29 |     |     | Yes | Yes |     |     |        |
| CA_4A-30A (0)                      | Band 4  |     |     | Yes | Yes | Yes | Yes | 20 MHz |
|                                    | Band 30 |     |     | Yes | Yes |     |     |        |
| CA_5A-7A (0) (1)                   | Band 5  | Yes | Yes | Yes | Yes |     |     | 30 MHz |
|                                    | Band 7  |     |     |     | Yes | Yes | Yes |        |
|                                    | Band 5  |     |     | Yes | Yes |     |     | 30 MHz |
|                                    | Band 7  |     |     |     | Yes | Yes | Yes |        |
| CA_5A-25A (0)                      | Band 5  |     |     | Yes | Yes |     |     | 30 MHz |
|                                    | Band 25 |     |     | Yes | Yes | Yes | Yes |        |
| CA_5A-30A (0)                      | Band 5  |     |     | Yes | Yes |     |     | 20 MHz |
|                                    | Band 30 |     |     | Yes | Yes |     |     |        |
| CA_5A-66A (0)                      | Band 5  |     |     | Yes | Yes |     |     | 30 MHz |
|                                    | Band 66 |     |     | Yes | Yes | Yes | Yes |        |
| CA_7A-12A (0)                      | Band 7  |     |     | Yes | Yes | Yes | Yes | 30 MHz |
|                                    | Band 12 |     |     | Yes | Yes |     |     |        |
| CA_12A-30A (0)                     | Band 12 |     |     | Yes | Yes |     |     | 20 MHz |
|                                    | Band 30 |     |     | Yes | Yes |     |     |        |
| CA_12A-66A (0) (1) (2) (3) (4) (5) | Band 12 |     |     | Yes | Yes |     |     | 20 MHz |
|                                    | Band 66 | Yes | Yes | Yes | Yes |     |     |        |
|                                    | Band 12 |     |     | Yes | Yes |     |     | 30 MHz |
|                                    | Band 66 | Yes | Yes | Yes | Yes | Yes | Yes |        |
|                                    | Band 12 |     | Yes | Yes | Yes |     |     | 30 MHz |
|                                    | Band 66 |     |     | Yes | Yes | Yes | Yes |        |
|                                    | Band 12 |     |     | Yes | Yes |     |     | 20 MHz |
|                                    | Band 66 |     |     | Yes | Yes |     |     |        |
|                                    | Band 12 |     |     | Yes | Yes |     |     | 30 MHz |
|                                    | Band 66 |     |     | Yes | Yes | Yes | Yes |        |

|                        |         |                    |     |     |     |     |     |        |
|------------------------|---------|--------------------|-----|-----|-----|-----|-----|--------|
|                        | Band 12 |                    |     | Yes |     |     |     | 20 MHz |
|                        | Band 66 |                    |     | Yes | Yes | Yes |     |        |
| CA_12A-66A-66A (0)     | Band 12 |                    |     | Yes | Yes |     |     | 50 MHz |
|                        | Band 66 | See CA_66A-66A (0) |     |     |     |     |     |        |
| CA_12A_66C (0)         | Band 12 |                    |     | Yes | Yes |     |     | 50 MHz |
|                        | Band 66 | See CA_66C (0)     |     |     |     |     |     |        |
| CA_13A-66A (0)         | Band 13 |                    |     | Yes | Yes |     |     | 30 MHz |
|                        | Band 66 |                    |     | Yes | Yes | Yes | Yes |        |
| CA_25A-26A (0) (1) (2) | Band 25 |                    | Yes | Yes | Yes | Yes | Yes | 35 MHz |
|                        | Band 26 | Yes                | Yes | Yes | Yes | Yes |     |        |
|                        | Band 25 |                    | Yes | Yes | Yes |     |     | 20 MHz |
|                        | Band 26 |                    | Yes | Yes | Yes |     |     |        |
|                        | Band 25 |                    |     | Yes | Yes |     |     | 20 MHz |
|                        | Band 26 |                    |     | Yes | Yes |     |     |        |
| CA_29A-30A (0)         | Band 29 |                    |     | Yes | Yes |     |     | 20 MHz |
|                        | Band 30 |                    |     | Yes | Yes |     |     |        |
| CA_30A-66A (0)         | Band 30 |                    |     | Yes | Yes |     |     | 30 MHz |
|                        | Band 66 |                    |     | Yes | Yes | Yes | Yes |        |

## DL Inter-Band (3 Bands, 4CC Max)

| E-UTRA CA configuration (BCS) | E-UTRA Band | Bandwidth        |       |       |        |        |        | Max Aggregated BW |
|-------------------------------|-------------|------------------|-------|-------|--------|--------|--------|-------------------|
|                               |             | 1.4 MHz          | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |                   |
| CA_2A-2A-5A-30A (0)           | Band 2      | See CA_2A-2A (0) |       |       |        |        |        | 60 MHz            |
|                               | Band 5      |                  |       | Yes   | Yes    |        |        |                   |
|                               | Band 30     |                  |       | Yes   | Yes    |        |        |                   |
| CA_2A-2A-12A-30A (0)          | Band 2      | See CA_2A-2A (0) |       |       |        |        |        | 60 MHz            |
|                               | Band 12     |                  |       | Yes   | Yes    |        |        |                   |
|                               | Band 30     |                  |       | Yes   | Yes    |        |        |                   |
| CA_2A-2A-29A-30A (0)          | Band 2      | See CA_2A-2A (0) |       |       |        |        |        | 60 MHz            |
|                               | Band 29     |                  |       | Yes   | Yes    |        |        |                   |
|                               | Band 30     |                  |       | Yes   | Yes    |        |        |                   |
| CA_2C-29A-30A (0)             | Band 2      | See CA_2C (0)    |       |       |        |        |        | 60 MHz            |
|                               | Band 29     |                  |       | Yes   | Yes    |        |        |                   |
|                               | Band 30     |                  |       | Yes   | Yes    |        |        |                   |
| CA_2A-4A-5A (0)               | Band 2      |                  |       | Yes   | Yes    | Yes    | Yes    | 50 MHz            |
|                               | Band 4      |                  |       | Yes   | Yes    | Yes    | Yes    |                   |

|                   |         |               |  |     |     |     |     |        |
|-------------------|---------|---------------|--|-----|-----|-----|-----|--------|
|                   | Band 5  |               |  | Yes | Yes |     |     |        |
| CA_2A-4A-12A (0)  | Band 2  |               |  | Yes | Yes | Yes | Yes | 50 MHz |
|                   | Band 4  |               |  | Yes | Yes | Yes | Yes |        |
|                   | Band 12 |               |  | Yes | Yes |     |     |        |
| CA_2A-4A-13A (0)  | Band 2  |               |  | Yes | Yes | Yes | Yes | 50 MHz |
|                   | Band 4  |               |  | Yes | Yes | Yes | Yes |        |
|                   | Band 13 |               |  |     | Yes |     |     |        |
| CA_2A-4A-29A (0)  | Band 2  |               |  | Yes | Yes | Yes | Yes | 50 MHz |
|                   | Band 4  |               |  | Yes | Yes | Yes | Yes |        |
|                   | Band 29 |               |  | Yes | Yes |     |     |        |
| CA_2A-4A-30A (0)  | Band 2  |               |  | Yes | Yes | Yes | Yes | 50 MHz |
|                   | Band 4  |               |  | Yes | Yes | Yes | Yes |        |
|                   | Band 30 |               |  | Yes | Yes |     |     |        |
| CA_2A-5A-30A (0)  | Band 2  |               |  | Yes | Yes | Yes | Yes | 40 MHz |
|                   | Band 5  |               |  | Yes | Yes |     |     |        |
|                   | Band 30 |               |  | Yes | Yes |     |     |        |
| CA_2C-5A-30A (0)  | Band 2  | See CA_2C (0) |  |     |     |     |     | 60 MHz |
|                   | Band 5  |               |  | Yes | Yes |     |     |        |
|                   | Band 30 |               |  | Yes | Yes |     |     |        |
| CA_2A-5A-66A (0)  | Band 2  |               |  | Yes | Yes | Yes | Yes | 50 MHz |
|                   | Band 5  |               |  | Yes | Yes |     |     |        |
|                   | Band 66 |               |  | Yes | Yes | Yes | Yes |        |
| CA_2A-12A-30A (0) | Band 2  |               |  | Yes | Yes | Yes | Yes | 40 MHz |
|                   | Band 12 |               |  | Yes | Yes |     |     |        |
|                   | Band 30 |               |  | Yes | Yes |     |     |        |
| CA_2C-12A-30A (0) | Band 2  | See CA_2C (0) |  |     |     |     |     | 60 MHz |
|                   | Band 12 |               |  | Yes | Yes |     |     |        |
|                   | Band 30 |               |  | Yes | Yes |     |     |        |
| CA_2A-12A-66A (0) | Band 2  |               |  | Yes | Yes | Yes | Yes | 50 MHz |
|                   | Band 12 |               |  | Yes | Yes |     |     |        |
|                   | Band 66 |               |  | Yes | Yes | Yes | Yes |        |
| CA_2A-13A-66A (0) | Band 2  |               |  | Yes | Yes | Yes | Yes | 50 MHz |
|                   | Band 13 |               |  | Yes | Yes |     |     |        |
|                   | Band 66 |               |  | Yes | Yes | Yes | Yes |        |
| CA-2A-29A-30A (0) | Band 2  |               |  | Yes | Yes | Yes | Yes | 40 MHz |
|                   | Band 29 |               |  | Yes | Yes |     |     |        |

|                      |         |                  |  |     |     |     |     |        |
|----------------------|---------|------------------|--|-----|-----|-----|-----|--------|
|                      | Band 30 |                  |  | Yes | Yes |     |     |        |
| CA_2A-30A-66A (0)    | Band 2  |                  |  | Yes | Yes | Yes | Yes | 50 MHz |
|                      | Band 30 |                  |  | Yes | Yes |     |     |        |
|                      | Band 66 |                  |  | Yes | Yes | Yes | Yes |        |
| CA_2C_29A-30A (0)    | Band 2  | See CA_2C (0)    |  |     |     |     |     | 60 MHz |
|                      | Band 29 |                  |  | Yes | Yes |     |     |        |
|                      | Band 30 |                  |  | Yes | Yes |     |     |        |
| CA_4A-4A-5A-30A (0)  | Band 4  | See CA_4A_4A (0) |  |     |     |     |     | 60 MHz |
|                      | Band 5  |                  |  | Yes | Yes |     |     |        |
|                      | Band 30 |                  |  | Yes | Yes |     |     |        |
| CA_4A-4A-12A-30A (0) | Band 4  | See CA_4A_4A (0) |  |     |     |     |     | 60 MHz |
|                      | Band 12 |                  |  | Yes | Yes |     |     |        |
|                      | Band 30 |                  |  | Yes | Yes |     |     |        |
| CA_4A-4A-29A-30A (0) | Band 4  | See CA_4A_4A (0) |  |     |     |     |     | 60 MHz |
|                      | Band 29 |                  |  | Yes | Yes |     |     |        |
|                      | Band 30 |                  |  | Yes | Yes |     |     |        |
| CA_4A-5A-30A (0)     | Band 4  |                  |  | Yes | Yes | Yes | Yes | 40 MHz |
|                      | Band 5  |                  |  | Yes | Yes |     |     |        |
|                      | Band 30 |                  |  | Yes | Yes |     |     |        |
| CA_4A-7A-12A (0) (1) | Band 4  |                  |  | Yes | Yes |     |     | 40 MHz |
|                      | Band 7  |                  |  | Yes | Yes | Yes | Yes |        |
|                      | Band 12 |                  |  | Yes | Yes |     |     |        |
|                      | Band 4  |                  |  | Yes | Yes | Yes | Yes | 50 MHz |
|                      | Band 7  |                  |  | Yes | Yes | Yes | Yes |        |
|                      | Band 12 |                  |  | Yes | Yes |     |     |        |
| CA_4A-12A-30A (0)    | Band 4  |                  |  | Yes | Yes | Yes | Yes | 40 MHz |
|                      | Band 12 |                  |  | Yes | Yes |     |     |        |
|                      | Band 30 |                  |  | Yes | Yes |     |     |        |
| CA_4A-29A-30A (0)    | Band 4  |                  |  | Yes | Yes | Yes | Yes | 40 MHz |
|                      | Band 29 |                  |  | Yes | Yes |     |     |        |
|                      | Band 30 |                  |  | Yes | Yes |     |     |        |
| CA_5A-30A-66A (0)    | Band 5  |                  |  | Yes | Yes |     |     | 40 MHz |
|                      | Band 30 |                  |  | Yes | Yes |     |     |        |
|                      | Band 66 |                  |  | Yes | Yes | Yes | Yes |        |
| CA_12A-30A-66A (0)   | Band 12 |                  |  | Yes | Yes |     |     | 40 MHz |

|  |         |  |  |     |     |     |     |  |
|--|---------|--|--|-----|-----|-----|-----|--|
|  | Band 30 |  |  | Yes | Yes |     |     |  |
|  | Band 66 |  |  | Yes | Yes | Yes | Yes |  |

## DL Inter-Band (4 Bands, 4CC Max)

| E-UTRA CA configuration (BCS) | E-UTRA Band | Bandwidth |       |       |        |        |        | Max Aggregated BW |
|-------------------------------|-------------|-----------|-------|-------|--------|--------|--------|-------------------|
|                               |             | 1.4 MHz   | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |                   |
| CA_2A-4A-5A-30A (0)           | Band 2      |           |       | Yes   | Yes    | Yes    | Yes    | 60 MHz            |
|                               | Band 4      |           |       | Yes   | Yes    | Yes    | Yes    |                   |
|                               | Band 5      |           |       | Yes   | Yes    |        |        |                   |
|                               | Band 30     |           |       | Yes   | Yes    |        |        |                   |
| CA2A-4A-12A-30A (0)           | Band 2      |           |       | Yes   | Yes    | Yes    | Yes    | 60 MHz            |
|                               | Band 4      |           |       | Yes   | Yes    | Yes    | Yes    |                   |
|                               | Band 12     |           |       | Yes   | Yes    |        |        |                   |
|                               | Band 30     |           |       | Yes   | Yes    |        |        |                   |
| CA_2A-4A-29A-30A (0)          | Band 2      |           |       | Yes   | Yes    | Yes    | Yes    | 60 MHz            |
|                               | Band 4      |           |       | Yes   | Yes    | Yes    | Yes    |                   |
|                               | Band 29     |           |       | Yes   | Yes    |        |        |                   |
|                               | Band 30     |           |       | Yes   | Yes    |        |        |                   |
| CA_2A-5A-30A-66A (0)          | Band 2      |           |       | Yes   | Yes    | Yes    | Yes    | 60 MHz            |
|                               | Band 5      |           |       | Yes   | Yes    |        |        |                   |
|                               | Band 30     |           |       | Yes   | Yes    |        |        |                   |
|                               | Band 66     |           |       | Yes   | Yes    | Yes    | Yes    |                   |
| CA_2A-12A-30A-66A (0)         | Band 2      |           |       | Yes   | Yes    | Yes    | Yes    | 60 MHz            |
|                               | Band 12     |           |       | Yes   | Yes    |        |        |                   |
|                               | Band 30     |           |       | Yes   | Yes    |        |        |                   |
|                               | Band 66     |           |       | Yes   | Yes    | Yes    | Yes    |                   |

## DL Intra-Band Non-Contiguous

| E-UTRA CA configuration (BCS) | E-UTRA Band | Allowed Channel BW Per Carrier (MHz) |               |             | Max Aggregated BW |
|-------------------------------|-------------|--------------------------------------|---------------|-------------|-------------------|
|                               |             | 1st Carrier                          | 2nd Carrier   | 3rd Carrier |                   |
| CA_2A-2A (0)                  | Band 2      | 5, 10, 15, 20                        | 5, 10, 15, 20 |             | 40 MHz            |
| CA_4A-4A (0) (1)              | Band 4      | 5, 10, 15, 20                        | 5, 10, 15, 20 |             | 40 MHz            |
|                               |             | 5, 10                                | 5, 10         |             | 20 MHz            |
| CA_7A-7A (0) (1) (2) (3)      | Band 7      | 5                                    | 15            |             | 40 MHz            |
|                               |             | 10                                   | 10, 15        |             |                   |
|                               |             | 15                                   | 15, 20        |             |                   |
|                               |             | 20                                   | 20            |             |                   |
|                               |             | 5, 10, 15, 20                        | 5, 10, 15, 20 |             | 40 MHz            |
|                               |             | 5, 10, 15, 20                        | 5, 10         |             | 30 MHz            |

|                    |         |                |                |  |        |
|--------------------|---------|----------------|----------------|--|--------|
|                    |         | 10, 15, 20     | 10, 15, 20     |  | 40 MHz |
| CA_25A-25A (0) (1) | Band 25 | 5, 10          | 5, 10          |  | 20 MHz |
|                    |         | 5, 10, 15, 20  | 5, 10, 15, 20  |  | 40 MHz |
| CA_41A-41A (0) (1) | Band 41 | 10, 15, 20     | 10, 15, 20     |  | 40 MHz |
|                    |         | 5, 10, 15, 20  | 5, 10, 15, 20  |  | 40 MHz |
| CA_41A-41C (0)     | Band 41 | 5, 10, 15, 20  | See CA_41C (1) |  | 60 MHz |
| CA_41C_41A (0)     | Band 41 | See CA_41C (1) | 5, 10, 15, 20  |  | 60 MHz |
| CA_66A-66A (0)     | Band 66 | 5, 10, 15, 20  | 5, 10, 15, 20  |  | 40 MHz |

## DL Intra-Band Contiguous

| E-UTRA CA configuration (BCS) | E-UTRA Band | Allowed Channel BW Per Carrier (MHz) |               |             | Max Aggregated BW |
|-------------------------------|-------------|--------------------------------------|---------------|-------------|-------------------|
|                               |             | 1st Carrier                          | 2nd Carrier   | 3rd Carrier |                   |
| CA_2C (0)                     | Band 2      | 5                                    | 20            |             | 40 MHz            |
|                               |             | 10                                   | 15, 20        |             |                   |
|                               |             | 15                                   | 10, 15, 20    |             |                   |
|                               |             | 20                                   | 5, 10, 15, 20 |             |                   |
| CA_7B (0)                     | Band 7      | 15                                   | 5             |             | 20 MHz            |
| CA_7C (0) (1) (2)             | Band 7      | 15                                   | 15            |             | 40 MHz            |
|                               |             | 20                                   | 20            |             | 40 MHz            |
|                               |             | 10                                   | 20            |             |                   |
|                               |             | 15                                   | 15, 20        |             |                   |
|                               |             | 20                                   | 10, 15, 20    |             | 40 MHz            |
|                               |             | 15                                   | 10, 15        |             |                   |
|                               |             | 20                                   | 15, 20        |             |                   |
| CA_12B (0)                    | Band 12     | 5                                    | 5, 10         |             | 15 MHz            |
| CA_41C (0) (1) (2) (3)        | Band 41     | 10                                   | 20            |             | 40 MHz            |
|                               |             | 15                                   | 15, 20        |             |                   |
|                               |             | 20                                   | 10, 15, 20    |             |                   |
|                               |             | 5, 10                                | 20            |             | 40 MHz            |
|                               |             | 15                                   | 15, 20        |             |                   |
|                               |             | 20                                   | 5, 10, 15, 20 |             |                   |
|                               |             | 10                                   | 15, 20        |             | 40 MHz            |
|                               |             | 15                                   | 10, 15, 20    |             |                   |
|                               |             | 20                                   | 10, 15, 20    |             |                   |
|                               |             | 10                                   | 20            |             | 40 MHz            |
|                               |             | 20                                   | 20            |             |                   |

|            |         |    |               |        |        |
|------------|---------|----|---------------|--------|--------|
| CA_41D (0) | Band 41 | 10 | 20            | 15     | 40 MHz |
|            |         | 10 | 15, 20        | 20     |        |
|            |         | 15 | 20            | 10, 15 |        |
|            |         | 15 | 10, 15, 20    | 20     |        |
|            |         | 20 | 15, 20        | 10     |        |
|            |         | 20 | 10, 15, 20    | 15, 20 |        |
| CA_66B (0) | Band 66 | 5  | 5, 10, 15     |        | 20 MHz |
|            |         | 10 | 5, 10         |        |        |
|            |         | 15 | 5             |        |        |
| CA_66C (0) | Band 66 | 10 | 15, 20        |        | 40 MHz |
|            |         | 15 | 10, 15, 20    |        |        |
|            |         | 20 | 5, 10, 15, 20 |        |        |

## UL Intra-Band Contiguous

| E-UTRA CA configuration (BCS) | E-UTRA Band | Allowed Channel BW Per Carrier (MHz) |               |             | Max Aggregated BW |
|-------------------------------|-------------|--------------------------------------|---------------|-------------|-------------------|
|                               |             | 1st Carrier                          | 2nd Carrier   | 3rd Carrier |                   |
| CA_7C (0) (1) (2)             | Band 7      | 15                                   | 15            |             | 40 MHz            |
|                               |             | 20                                   | 20            |             |                   |
|                               |             | 10                                   | 20            |             | 40 MHz            |
|                               |             | 15                                   | 15, 20        |             |                   |
|                               |             | 20                                   | 10, 15, 20    |             |                   |
|                               |             | 15                                   | 10, 15        |             | 40 MHz            |
|                               |             | 20                                   | 15, 20        |             |                   |
| CA_41C (0) (1) (2) (3)        | Band 41     | 10                                   | 20            |             | 40 MHz            |
|                               |             | 15                                   | 15, 20        |             |                   |
|                               |             | 20                                   | 10, 15, 20    |             |                   |
|                               |             | 5, 10                                | 20            |             | 40 MHz            |
|                               |             | 15                                   | 15, 20        |             |                   |
|                               |             | 20                                   | 5, 10, 15, 20 |             |                   |
|                               |             | 10                                   | 15, 20        |             | 40 MHz            |
|                               |             | 15                                   | 10, 15, 20    |             |                   |
|                               |             | 20                                   | 10, 15, 20    |             |                   |
|                               |             | 10                                   | 20            |             | 40 MHz            |
|                               |             | 20                                   | 20            |             |                   |

**Carrier Aggregation Power Measurements:**

Power measurements were performed on the channel with the highest maximum output power from Tune-up Procedure on LAT antenna, Head power table on QPSK modulation following the Manufacturer KDB inquiry - Carrier Aggregation.

When carrier aggregation is limited to downlink only, uplink maximum output power (single carrier) is measured for the supported combinations of downlink carrier aggregation listed in the table below. In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the subset in each row with the largest combination of frequency bands and CCs (far right most configuration highlighted in the table below).

| E-UTRA CA configuration (BCS)   |                                 |                                 |                                 |                                 |
|---------------------------------|---------------------------------|---------------------------------|---------------------------------|---------------------------------|
| DL Inter-Band<br>(2 Bands, 2CC) | DL Inter-Band<br>(2 Bands, 3CC) | DL Inter-Band<br>(3 Bands, 3CC) | DL Inter-Band<br>(3 Bands, 4CC) | DL Inter-Band<br>(4 Bands, 4CC) |
| CA_2A-4A(0)(1)(2)               |                                 |                                 |                                 | CA_2A-4A-5A-30A(0)              |
| CA_2A-5A(0)(1)                  | CA_2A-2A-5A(0)                  | CA_2A-4A-5A(0)                  |                                 | CA_2A-4A-5A-30A(0)              |
|                                 | CA_2C-5A(0)                     |                                 |                                 |                                 |
|                                 | CA_2C-30A(0)                    |                                 |                                 |                                 |
|                                 |                                 | CA_2A-5A-30A(0)                 | CA_2A-2A-5A-30A(0)              | CA_2A-4A-5A-30A(0)              |
|                                 |                                 |                                 | CA_2C-5A-30A(0)                 |                                 |
| CA_4A-5A(0)(1)                  | CA_4A-4A-5A(0)                  |                                 |                                 | CA_2A-4A-5A-30A(0)              |
| CA_4A-30A(0)                    | CA_4A-4A-30A(0)                 | CA_4A-5A-30A(0)                 | CA_4A-4A-5A-30A(0)              | CA_2A-4A-5A-30A(0)              |
| CA_5A-30A(0)                    |                                 |                                 |                                 | CA_2A-4A-5A-30A(0)              |
| CA_2A-12A(0)(1)(2)              | CA_2A-2A-12A(0)                 | CA_2A-4A-12A(0)                 |                                 | CA_2A-4A-12A-30A(0)             |
|                                 |                                 | CA_2A-12A-30A(0)                | CA_2A-2A-12A-30A(0)             | CA_2A-4A-12A-30A(0)             |
|                                 |                                 |                                 | CA_2C-12A-30A(0)                |                                 |
|                                 | CA_2A-12B(0)                    |                                 |                                 |                                 |
|                                 | CA_2C-12A(0)                    |                                 |                                 |                                 |
|                                 |                                 | CA_4A-12A-30A(0)                | CA_4A-4A-12A-30A(0)             | CA_2A-4A-12A-30A(0)             |
| CA_4A-12A(0)(1)(2)(3)(4)(5)     | CA_4A-4A-12A(0)                 | CA_4A-7A-12A(0)(1)              |                                 |                                 |
|                                 | CA_4A-12B(0)                    |                                 |                                 |                                 |
| CA_12A-30A(0)                   |                                 |                                 |                                 | CA_2A-4A-12A-30A(0)             |
| CA_2A-29A(0)(1)(2)              | CA_2A-2A-29A(0)                 | CA_2A-4A-29A(0)                 |                                 | CA_2A-4A-29A-30A(0)             |
| CA_2A-30A(0)                    | CA_2A-2A-30A(0)                 | CA_2A-4A-30A(0)                 |                                 | CA_2A-4A-29A-30A(0)             |
| CA_2C-29A(0)                    |                                 |                                 | CA_2C_29A-30A(0)                |                                 |
|                                 |                                 | CA_2A-29A-30A(0)                | CA_2A-2A-29A-30A(0)             | CA_2A-4A-29A-30A(0)             |
| CA_4A-29A(0)(1)(2)              | CA_4A-4A-29A(0)                 |                                 |                                 | CA_2A-4A-29A-30A(0)             |
|                                 |                                 | CA_4A-29A-30A(0)                | CA_4A-4A-29A-30A(0)             | CA_2A-4A-29A-30A(0)             |
| CA_29A-30A(0)                   |                                 |                                 |                                 | CA_2A-4A-29A-30A(0)             |
| CA_2A-66A(0)(1)(2)              |                                 | CA_2A-5A-66A(0)                 |                                 | CA_2A-5A-30A-66A(0)             |
|                                 |                                 | CA_2A_30A-66A(0)                |                                 | CA_2A-5A-30A-66A(0)             |
|                                 | CA_2A-66B(0)                    |                                 |                                 |                                 |
|                                 | CA_2A-66C(0)                    |                                 |                                 |                                 |
| CA_5A-66A(0)                    |                                 | CA_5A-30A-66A(0)                |                                 |                                 |
|                                 |                                 | CA_2A-12A-66A(0)                |                                 | CA_2A-12A-30A-66A(0)            |
| CA_12A-66A(0)(1)(2)(3)(4)(5)    | CA_12A-66A-66A(0)               | CA_12A-30A-66A(0)               |                                 | CA_2A-12A-30A-66A(0)            |
| CA_30A-66A(0)                   |                                 |                                 |                                 | CA_2A-12A-30A-66A(0)            |
|                                 | CA_12A-66C(0)                   |                                 |                                 |                                 |
| CA_2A-13A(0)(1)                 | CA_2A-2A-13A(0)                 | CA_2A-4A-13A(0)                 |                                 |                                 |
|                                 |                                 | CA_2A-13A-66A(0)                |                                 |                                 |
| CA_2A-17A(0)                    |                                 |                                 |                                 |                                 |
| CA_4A-7A(0)(1)                  | CA_4A-4A-7A(0)(1)               |                                 |                                 |                                 |
| CA_4A-13A(0)(1)                 | CA_4A-4A-13A(0)                 |                                 |                                 |                                 |
| CA_4A-17A(0)                    |                                 |                                 |                                 |                                 |
| CA_7A-12A(0)                    |                                 |                                 |                                 |                                 |
| CA_5A-7A(0)(1)                  |                                 |                                 |                                 |                                 |
| CA_5A-25A(0)                    |                                 |                                 |                                 |                                 |
| CA_13A-66A(0)                   |                                 |                                 |                                 |                                 |
| CA_25A-26A(0)(1)(2)             |                                 |                                 |                                 |                                 |

## DL Inter-Band (2 Bands, 2CC and 3CC)

| E-UTRA CA configuration (BCS) | Bands |     |     |     | DL  |        |       |     |        |       |     |        |       |     |      |    | UL         |    |        |    |        |        |               |     |             |           |       |             |
|-------------------------------|-------|-----|-----|-----|-----|--------|-------|-----|--------|-------|-----|--------|-------|-----|------|----|------------|----|--------|----|--------|--------|---------------|-----|-------------|-----------|-------|-------------|
|                               | PCC   | SCC | TCC | QCC | PCC |        |       | SCC |        |       | TCC |        |       | QCC |      |    | PCC        |    |        |    |        |        |               |     |             |           |       |             |
|                               | 1st   | 2nd | 3rd | 4th | BW  | Freq   | Ch    | BW  | Freq   | Ch    | BW  | Freq   | Ch    | BW  | Freq | Ch | Modulation | RB | Offset | BW | Freq   | Ch     | Aggregated BW | MPR | CA Inactive | CA Active | Delta | 3GPP Rel. # |
| CA_2C-5A (0)                  | 2C    | 2C  | 5A  |     | 20  | 1960   | 900   | 20  | 1980   | 1100  | 10  | 881.5  | 2525  |     |      |    | QPSK       | 1  | 49     | 20 | 1880   | 18900  | 50            | 0   | 25.3        | 25.2      | -0.1  | 13          |
|                               | 5A    | 2C  | 2C  |     | 10  | 881.5  | 2525  | 20  | 1960   | 900   | 20  | 1980   | 1100  |     |      |    | QPSK       | 1  | 24     | 10 | 836.5  | 20525  | 50            | 0   | 24.8        | 24.6      | -0.2  | 13          |
| CA_2C-12A (0)                 | 2C    | 2C  | 12A |     | 20  | 1960   | 900   | 20  | 1980   | 1100  | 10  | 737.5  | 5095  |     |      |    | QPSK       | 1  | 49     | 20 | 1880   | 18900  | 50            | 0   | 25.3        | 25.2      | -0.1  | 13          |
|                               | 12A   | 2C  | 2C  |     | 10  | 737.5  | 5095  | 20  | 1960   | 900   | 20  | 1980   | 1100  |     |      |    | QPSK       | 1  | 24     | 10 | 707.5  | 23095  | 50            | 0   | 24.8        | 24.8      | 0.0   | 13          |
| CA-2A-12B (0)                 | 2A    | 12B | 12B |     | 20  | 1960   | 900   | 10  | 737.5  | 5095  | 5   | 745    | 5170  |     |      |    | QPSK       | 1  | 49     | 20 | 1880   | 18900  | 35            | 0   | 25.3        | 25.2      | -0.1  | 12          |
|                               | 12B   | 12B | 2A  |     | 10  | 737.5  | 5095  | 5   | 745    | 5170  | 20  | 1960   | 900   |     |      |    | QPSK       | 1  | 24     | 10 | 707.5  | 23095  | 35            | 0   | 24.8        | 24.8      | 0.0   | 12          |
| CA_2A-17A (0)                 | 2A    | 17A |     |     | 20  | 1960   | 900   | 10  | 740    | 5790  |     |        |       |     |      |    | QPSK       | 1  | 49     | 20 | 1880   | 18900  | 20            | 0   | 25.3        | 25.2      | -0.1  | 11          |
|                               | 17A   | 2A  |     |     | 10  | 740    | 5790  | 20  | 1960   | 900   |     |        |       |     |      |    | QPSK       | 1  | 24     | 10 | 710    | 23790  | 20            | 0   | 24.8        | 24.8      | 0.0   | 11          |
| CA_2C-30A (0)                 | 2C    | 2C  | 30A |     | 20  | 1960   | 900   | 20  | 1980   | 1100  | 10  | 2355   | 9820  |     |      |    | QPSK       | 1  | 49     | 20 | 1880   | 18900  | 50            | 0   | 25.3        | 25.2      | -0.1  | 13          |
|                               | 30A   | 2C  | 2C  |     | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 1980   | 1100  |     |      |    | QPSK       | 1  | 24     | 10 | 2310   | 27710  | 50            | 0   | 23.8        | 23.8      | 0.0   | 13          |
| CA_2A-66B (0)                 | 2A    | 66B | 66B |     | 20  | 1960   | 900   | 15  | 2145   | 66786 | 5   | 2155   | 66866 |     |      |    | QPSK       | 1  | 49     | 20 | 1880   | 18900  | 40            | 0   | 25.3        | 25.2      | -0.1  | 14          |
|                               | 66B   | 66B | 2A  |     | 15  | 2145   | 66786 | 5   | 2155   | 66866 | 20  | 1960   | 900   |     |      |    | QPSK       | 1  | 49     | 15 | 1745   | 132322 | 40            | 0   | 25.3        | 25.2      | -0.1  | 14          |
| CA-2A-66C (0)                 | 2A    | 66C | 66C |     | 20  | 1960   | 900   | 20  | 2145   | 66786 | 20  | 2165   | 66986 |     |      |    | QPSK       | 1  | 49     | 20 | 1880   | 18900  | 60            | 0   | 25.3        | 25.2      | -0.1  | 14          |
|                               | 66C   | 66C | 2A  |     | 20  | 2145   | 66786 | 20  | 2165   | 66986 | 20  | 1960   | 900   |     |      |    | QPSK       | 1  | 49     | 20 | 1745   | 132322 | 60            | 0   | 25.3        | 25.2      | -0.1  | 14          |
| CA_4A-4A-7A (0) (1)           | 4A    | 4A  | 7A  |     | 20  | 2132.5 | 2175  | 20  | 2132.5 | 2175  | 20  | 2655   | 3100  |     |      |    | QPSK       | 1  | 49     | 20 | 1732.5 | 20175  | 40            | 0   | 25.3        | 25.2      | -0.1  | 13          |
|                               | 7A    | 4A  | 4A  |     | 20  | 2655   | 3100  | 20  | 2132.5 | 2175  | 20  | 2132.5 | 2175  |     |      |    | QPSK       | 1  | 49     | 20 | 2535   | 21100  | 40            | 0   | 25.3        | 25.3      | 0.0   | 13          |
| CA_4A-4A-13A (0)              | 4A    | 4A  | 13A |     | 20  | 2132.5 | 2175  | 20  | 2132.5 | 2175  | 10  | 751    | 5230  |     |      |    | QPSK       | 1  | 49     | 20 | 1732.5 | 20175  | 50            | 0   | 25.3        | 25.2      | -0.1  | 12          |
|                               | 13A   | 4A  | 4A  |     | 10  | 751    | 5230  | 20  | 2132.5 | 2175  | 20  | 2132.5 | 2175  |     |      |    | QPSK       | 1  | 24     | 10 | 782    | 23230  | 50            | 0   | 24.8        | 24.8      | 0.0   | 12          |
| CA_4A-12B (0)                 | 4A    | 12B | 12B |     | 20  | 2132.5 | 2175  | 10  | 737.5  | 5095  | 5A  | 745    | 5170  |     |      |    | QPSK       | 1  | 49     | 20 | 1732.5 | 20175  | 35            | 0   | 25.3        | 25.2      | -0.1  | 12          |
|                               | 12B   | 12B | 4A  |     | 10  | 737.5  | 5095  | 5   | 745    | 5170  | 20  | 2132.5 | 2175  |     |      |    | QPSK       | 1  | 24     | 10 | 707.5  | 23095  | 35            | 0   | 24.8        | 24.8      | 0.0   | 12          |
| CA_4A-17A (0)                 | 4A    | 17A |     |     | 20  | 2132.5 | 2175  | 10  | 740    | 5790  |     |        |       |     |      |    | QPSK       | 1  | 49     | 20 | 1732.5 | 20175  | 20            | 0   | 25.3        | 25.2      | -0.1  | 11          |
|                               | 17A   | 4A  |     |     | 10  | 740    | 5790  | 20  | 2132.5 | 2175  |     |        |       |     |      |    | QPSK       | 1  | 24     | 10 | 710    | 23790  | 20            | 0   | 24.8        | 24.8      | 0.0   | 11          |
| CA_5A-7A (0) (1)              | 5A    | 7A  |     |     | 10  | 881.5  | 2525  | 20  | 2655   | 3100  |     |        |       |     |      |    | QPSK       | 1  | 24     | 10 | 836.5  | 20525  | 30            | 0   | 24.8        | 24.6      | -0.2  | 13          |
|                               | 7A    | 5A  |     |     | 20  | 2655   | 3100  | 10  | 881.5  | 2525  |     |        |       |     |      |    | QPSK       | 1  | 49     | 20 | 2535   | 21100  | 30            | 0   | 25.3        | 25.3      | 0.0   | 13          |
| CA_5A-25A (0)                 | 5A    | 25A |     |     | 10  | 881.5  | 2525  | 20  | 1962.5 | 8365  |     |        |       |     |      |    | QPSK       | 1  | 24     | 10 | 836.5  | 20525  | 30            | 0   | 24.8        | 24.6      | -0.2  | 12          |
|                               | 25A   | 5A  |     |     | 20  | 1962.5 | 8365  | 10  | 881.5  | 2525  |     |        |       |     |      |    | QPSK       | 1  | 49     | 20 | 1882.5 | 26365  | 30            | 0   | 25.3        | 25.2      | -0.1  | 12          |
| CA_7A-12A (0)                 | 7A    | 12A |     |     | 20  | 2655   | 3100  | 10  | 737.5  | 5095  |     |        |       |     |      |    | QPSK       | 1  | 49     | 20 | 2535   | 21100  | 30            | 0   | 25.3        | 25.3      | 0.0   | 12          |
|                               | 12A   | 7A  |     |     | 10  | 737.5  | 5095  | 20  | 2655   | 3100  |     |        |       |     |      |    | QPSK       | 1  | 24     | 10 | 707.5  | 23095  | 30            | 0   | 24.8        | 24.8      | 0.0   | 12          |
| CA_12A-66C (0)                | 12A   | 66C | 66C |     | 10  | 737.5  | 5095  | 20  | 2145   | 66786 | 20  | 2165   | 66986 |     |      |    | QPSK       | 1  | 24     | 10 | 707.5  | 23095  | 50            | 0   | 24.8        | 24.8      | 0.0   | 14          |
|                               | 66C   | 66C | 12A |     | 20  | 2145   | 66786 | 20  | 2165   | 66986 | 10  | 737.5  | 5095  |     |      |    | QPSK       | 1  | 49     | 20 | 1745   | 132322 | 50            | 0   | 25.3        | 25.2      | -0.1  | 14          |
| CA_13A-66A (0)                | 13A   | 66A |     |     | 10  | 751    | 5230  | 20  | 2145   | 66786 |     |        |       |     |      |    | QPSK       | 1  | 24     | 10 | 782    | 23230  | 30            | 0   | 24.8        | 24.8      | 0.0   | 14          |
|                               | 66A   | 13A |     |     | 20  | 2145   | 66786 | 10  | 751    | 5230  |     |        |       |     |      |    | QPSK       | 1  | 49     | 20 | 1745   | 132322 | 30            | 0   | 25.3        | 25.2      | -0.1  | 14          |
| CA_25A-26A (0) (1) (2)        | 25A   | 26A |     |     | 20  | 1962.5 | 8365  | 10  | 876.5  | 8865  |     |        |       |     |      |    | QPSK       | 1  | 49     | 20 | 1882.5 | 26365  | 35            | 0   | 25.3        | 25.2      | -0.1  | 13          |
|                               | 26A   | 25A |     |     | 10  | 876.5  | 8865  | 20  | 1962.5 | 8365  |     |        |       |     |      |    | QPSK       | 1  | 24     | 10 | 831.5  | 26865  | 35            | 0   | 24.8        | 24.7      | -0.1  | 13          |

## DL Inter-Band (3 Bands, 3 CC and 4 CC)

| E-UTRA CA configuration (BCS) | Bands |     |     |     | DL  |        |       |     |        |       |     |        |       |     |       |      | UL         |    |        |    |         |         |               |     |             |           |         |             |
|-------------------------------|-------|-----|-----|-----|-----|--------|-------|-----|--------|-------|-----|--------|-------|-----|-------|------|------------|----|--------|----|---------|---------|---------------|-----|-------------|-----------|---------|-------------|
|                               | PCC   | SCC | TCC | QCC | PCC |        |       | SCC |        |       | TCC |        |       | QCC |       |      | PCC        |    |        |    |         |         |               |     |             |           |         |             |
|                               | 1st   | 2nd | 3rd | 4th | BW  | Freq   | Ch    | BW  | Freq   | Ch    | BW  | Freq   | Ch    | BW  | Freq  | Ch   | Modulation | RB | Offset | BW | Freq    | Ch      | Aggregated BW | MPR | CA Inactive | CA Active | Delta   | 3GPP Rel. # |
| CA_2A-4A-13A (0)              | 2A    | 4A  | 13A |     | 20  | 1960   | 900   | 20  | 2132.5 | 2175  | 10  | 751    | 5230  |     |       |      | QPSK       | 1  | 49     | 20 | 1880    | 18900   | 50            | 0   | 25.3        | 25.2      | -0.1    | 12          |
|                               | 4A    | 13A | 2A  |     | 20  | 2132.5 | 2175  | 10  | 751    | 5230  | 20  | 1960   | 900   |     |       |      | QPSK       | 1  | 49     | 20 | 1732.5  | 20175   | 50            | 0   | 25.3        | 25.2      | -0.1    | 12          |
|                               | 13A   | 2A  | 4A  |     | 10  | 751    | 5230  | 20  | 1960   | 900   | 20  | 2132.5 | 2175  |     |       |      | QPSK       | 1  | 24     | 10 | 782     | 23230   | 50            | 0   | 24.8        | 24.8      | 0.0     | 12          |
| CA_2C-5A-30A (0)              | 2C    | 2C  | 5A  | 30A | 20  | 1960   | 900   | 20  | 1980   | 1100  | 10  | 881.5  | 2525  | 10  | 2355  | 9820 | QPSK       | 1  | 49     | 20 | 1880    | 18900   | 60            | 0   | 25.3        | 25.2      | -0.1    | 13          |
|                               | 5A    | 30A | 2C  | 2C  | 10  | 881.5  | 2525  | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 1980  | 1100 | QPSK       | 1  | 24     | 10 | 836.5   | 20525   | 60            | 0   | 24.8        | 24.6      | -0.2    | 13          |
|                               | 30A   | 2C  | 2C  | 5A  | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 1980   | 1100  | 10  | 881.5 | 2525 | QPSK       | 1  | 24     | 10 | 2310    | 27710   | 60            | 0   | 23.8        | 23.8      | 0.0     | 13          |
| CA_2C-12A-30A (0)             | 2C    | 2C  | 12A | 30A | 20  | 1960   | 900   | 20  | 1980   | 1100  | 10  | 737.5  | 5095  | 10  | 2355  | 9820 | QPSK       | 1  | 49     | 20 | 1880    | 18900   | 60            | 0   | 25.3        | 25.2      | -0.1    | 13          |
|                               | 12A   | 30A | 2C  | 2C  | 10  | 737.5  | 5095  | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 1980  | 1100 | QPSK       | 1  | 24     | 10 | 707.5   | 23095   | 60            | 0   | 24.8        | 24.8      | 0.0     | 13          |
|                               | 30A   | 2C  | 2C  | 12A | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 1980   | 1100  | 10  | 737.5 | 5095 | QPSK       | 1  | 24     | 10 | 2310    | 27710   | 60            | 0   | 23.8        | 23.8      | 0.0     | 13          |
| CA_2A-13A-66A (0)             | 2A    | 13A | 66A |     | 20  | 1960   | 900   | 10  | 751    | 5230  | 20  | 2145   | 66786 |     |       |      | QPSK       | 1  | 49     | 20 | 1880    | 18900   | 50            | 0   | 25.3        | 25.2      | -0.1    | 14          |
|                               | 13A   | 66A | 2A  |     | 10  | 751    | 5230  | 20  | 2145   | 66786 | 20  | 1960   | 900   |     |       |      | QPSK       | 1  | 24     | 10 | 782     | 23230   | 50            | 0   | 24.8        | 24.8      | 0.0     | 14          |
|                               | 66A   | 2A  | 13A |     | 20  | 2145   | 66786 | 20  | 1960   | 900   | 10  | 751    | 5230  |     |       |      | QPSK       | 1  | 49     | 20 | 1745    | 132322  | 50            | 0   | 25.3        | 25.2      | -0.1    | 14          |
| CA_2C-29A-30A (0)             | 2C    | 2C  | 29A | 30A | 20  | 1960   | 900   | 20  | 1980   | 1100  | 10  | 722.5  | 9715  | 10  | 2355  | 9820 | QPSK       | 1  | 49     | 20 | 1880    | 18900   | 60            | 0   | 25.3        | 25.2      | -0.1    | 13          |
|                               | 29A   | 30A | 2C  | 2C  | 10  | 722.5  | 9715  | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 1980  | 1100 | QPSK       | 1  | 24     | 10 | DL Only | DL Only | 60            | 0   | DL Only     | DL Only   | DL Only | 13          |
|                               | 30A   | 2C  | 2C  | 29A | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 1980   | 1100  | 10  | 722.5 | 9715 | QPSK       | 1  | 24     | 10 | 2310    | 27710   | 60            | 0   | 23.8        | 23.8      | 0.0     | 13          |
| CA_4A-7A-12A (0) (1)          | 4A    | 7A  | 12A |     | 20  | 2132.5 | 2175  | 20  | 2655   | 3100  | 10  | 737.5  | 5095  |     |       |      | QPSK       | 1  | 49     | 20 | 1732.5  | 20175   | 50            | 0   | 25.3        | 25.2      | -0.1    | 13          |
|                               | 7A    | 12A | 4A  |     | 20  | 2655   | 3100  | 10  | 737.5  | 5095  | 20  | 2132.5 | 2175  |     |       |      | QPSK       | 1  | 49     | 20 | 2535    | 21100   | 50            | 0   | 25.3        | 25.3      | 0.0     | 13          |
|                               | 12A   | 4A  | 7A  |     | 10  | 737.5  | 5095  | 20  | 2132.5 | 2175  | 20  | 2655   | 3100  |     |       |      | QPSK       | 1  | 24     | 10 | 707.5   | 23095   | 50            | 0   | 24.8        | 24.8      | 0.0     | 13          |
| CA_5A-30A-66A (0)             | 5A    | 30A | 66A |     | 10  | 881.5  | 2525  | 10  | 2355   | 9820  | 20  | 2145   | 66786 |     |       |      | QPSK       | 1  | 24     | 10 | 836.5   | 20525   | 40            | 0   | 24.8        | 24.6      | -0.2    | 14          |
|                               | 30A   | 66A | 5A  |     | 10  | 2355   | 9820  | 20  | 2145   | 66786 | 10  | 881.5  | 2525  |     |       |      | QPSK       | 1  | 24     | 10 | 2310    | 27710   | 40            | 0   | 23.8        | 23.8      | 0.0     | 14          |
|                               | 66A   | 5A  | 30A |     | 20  | 2145   | 66786 | 10  | 881.5  | 2525  | 10  | 2355   | 9820  |     |       |      | QPSK       | 1  | 49     | 20 | 1745    | 132322  | 40            | 0   | 25.3        | 25.2      | -0.1    | 14          |

## DL Inter-Band (4 Bands, 4CC)

| E-UTRA CA configuration (BCS) | Bands |     |     |     | DL  |        |       |     |        |       |     |        |       |     |        |       | UL        |    |        |    |         |         |                  |     |                |              |         |                |
|-------------------------------|-------|-----|-----|-----|-----|--------|-------|-----|--------|-------|-----|--------|-------|-----|--------|-------|-----------|----|--------|----|---------|---------|------------------|-----|----------------|--------------|---------|----------------|
|                               | PCC   | SCC | TCC | QCC | PCC |        |       | SCC |        |       | TCC |        |       | QCC |        |       | PCC       |    |        |    |         |         |                  |     |                |              |         |                |
|                               | 1st   | 2nd | 3rd | 4th | BW  | Freq   | Ch    | BW  | Freq   | Ch    | BW  | Freq   | Ch    | BW  | Freq   | Ch    | Modulatio | RB | Offset | BW | Freq    | Ch      | Aggregated<br>BW | MPR | CA<br>Inactive | CA<br>Active | Delta   | 3GPP<br>Rel. # |
| CA_2A-4A-5A-30A (0)           | 2A    | 4A  | 5A  | 30A | 20  | 1960   | 900   | 20  | 2132.5 | 2175  | 10  | 881.5  | 2525  | 10  | 2355   | 9820  | QPSK      | 1  | 49     | 20 | 1880    | 18900   | 60               | 0   | 25.3           | 25.2         | -0.1    | 13             |
|                               | 4A    | 5A  | 30A | 2A  | 20  | 2132.5 | 2175  | 10  | 881.5  | 2525  | 10  | 2355   | 9820  | 20  | 1960   | 900   | QPSK      | 1  | 49     | 20 | 1732.5  | 20175   | 60               | 0   | 25.3           | 25.2         | -0.1    | 13             |
|                               | 5A    | 30A | 2A  | 4A  | 10  | 881.5  | 2525  | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 2132.5 | 2175  | QPSK      | 1  | 24     | 10 | 836.5   | 20525   | 60               | 0   | 24.8           | 24.7         | -0.1    | 13             |
|                               | 30A   | 2A  | 4A  | 5A  | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 2132.5 | 2175  | 10  | 881.5  | 2525  | QPSK      | 1  | 24     | 10 | 2310    | 27710   | 60               | 0   | 23.8           | 23.8         | 0.0     | 13             |
| CA2A-4A-12A-30A (0)           | 2A    | 4A  | 12A | 30A | 20  | 1960   | 900   | 20  | 2132.5 | 2175  | 10  | 737.5  | 5095  | 10  | 2355   | 9820  | QPSK      | 1  | 49     | 20 | 1880    | 18900   | 60               | 0   | 25.3           | 25.2         | -0.1    | 13             |
|                               | 4A    | 12A | 30A | 2A  | 20  | 2132.5 | 2175  | 10  | 737.5  | 5095  | 10  | 2355   | 9820  | 20  | 1960   | 900   | QPSK      | 1  | 49     | 20 | 1732.5  | 20175   | 60               | 0   | 25.3           | 25.2         | -0.1    | 13             |
|                               | 12A   | 30A | 2A  | 4A  | 10  | 737.5  | 5095  | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 2132.5 | 2175  | QPSK      | 1  | 24     | 10 | 707.5   | 23095   | 60               | 0   | 24.8           | 24.8         | 0.0     | 13             |
|                               | 30A   | 2A  | 4A  | 12A | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 2132.5 | 2175  | 10  | 737.5  | 5095  | QPSK      | 1  | 24     | 10 | 2310    | 27710   | 60               | 0   | 23.8           | 23.8         | 0.0     | 13             |
| CA_2A-4A-29A-30A (0)          | 2A    | 4A  | 29A | 30A | 20  | 1960   | 900   | 20  | 2132.5 | 2175  | 10  | 722.5  | 9715  | 10  | 2355   | 9820  | QPSK      | 1  | 49     | 20 | 1880    | 18900   | 60               | 0   | 25.3           | 25.2         | -0.1    | 13             |
|                               | 4A    | 29A | 30A | 2A  | 20  | 2132.5 | 2175  | 10  | 722.5  | 9715  | 10  | 2355   | 9820  | 20  | 1960   | 900   | QPSK      | 1  | 49     | 20 | 1732.5  | 20175   | 60               | 0   | 25.3           | 25.2         | -0.1    | 13             |
|                               | 29A   | 30A | 2A  | 4A  | 10  | 722.5  | 9715  | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 2132.5 | 2175  | QPSK      | 1  | 24     | 10 | DL Only | DL Only | 60               | 0   | DL Only        | DL Only      | DL Only | 13             |
|                               | 30A   | 2A  | 4A  | 29A | 10  | 2355   | 9820  | 20  | 1960   | 900   | 20  | 2132.5 | 2175  | 10  | 722.5  | 9715  | QPSK      | 1  | 24     | 10 | 2310    | 27710   | 60               | 0   | 23.8           | 23.8         | 0.0     | 13             |
| CA_2A-5A-30A-66A (0)          | 2A    | 5A  | 30A | 66A | 20  | 1960   | 900   | 10  | 881.5  | 2525  | 10  | 2355   | 9820  | 20  | 2145   | 66786 | QPSK      | 1  | 49     | 20 | 1880    | 18900   | 60               | 0   | 25.3           | 25.2         | -0.1    | 14             |
|                               | 5A    | 30A | 66A | 2A  | 10  | 881.5  | 2525  | 10  | 2355   | 9820  | 20  | 2145   | 66786 | 20  | 1960   | 900   | QPSK      | 1  | 24     | 10 | 836.5   | 20525   | 60               | 0   | 24.8           | 24.7         | -0.1    | 14             |
|                               | 30A   | 66A | 2A  | 5A  | 10  | 2355   | 9820  | 20  | 2145   | 66786 | 20  | 1960   | 900   | 10  | 881.5  | 2525  | QPSK      | 1  | 24     | 10 | 2310    | 27710   | 60               | 0   | 23.8           | 23.8         | 0.0     | 14             |
|                               | 66A   | 2A  | 5A  | 30A | 20  | 2145   | 66786 | 20  | 1960   | 900   | 10  | 881.5  | 2525  | 10  | 2355   | 9820  | QPSK      | 1  | 49     | 20 | 1745    | 132322  | 60               | 0   | 25.3           | 25.2         | -0.1    | 14             |
| CA_2A-12A-30A-66A (0)         | 2A    | 12A | 30A | 66A | 20  | 1960   | 900   | 10  | 737.5  | 5095  | 10  | 2355   | 9820  | 20  | 2145   | 66786 | QPSK      | 1  | 49     | 20 | 1880    | 18900   | 60               | 0   | 25.3           | 25.2         | -0.1    | 14             |
|                               | 12A   | 30A | 66A | 2A  | 10  | 737.5  | 5095  | 10  | 2355   | 9820  | 20  | 2145   | 66786 | 20  | 1960   | 900   | QPSK      | 1  | 24     | 10 | 707.5   | 23095   | 60               | 0   | 24.8           | 24.8         | 0.0     | 14             |
|                               | 30A   | 66A | 2A  | 12A | 10  | 2355   | 9820  | 20  | 2145   | 66786 | 20  | 1960   | 900   | 10  | 737.5  | 5095  | QPSK      | 1  | 24     | 10 | 2310    | 27710   | 60               | 0   | 23.8           | 23.8         | 0.0     | 14             |
|                               | 66A   | 2A  | 12A | 30A | 20  | 2145   | 66786 | 20  | 1960   | 900   | 10  | 737.5  | 5095  | 10  | 2355   | 9820  | QPSK      | 1  | 49     | 20 | 1745    | 132322  | 60               | 0   | 25.3           | 25.2         | -0.1    | 14             |

In applying the power measurement procedures of KDB 941225 D05A for DL CA to qualify for UL SAR test exclusion, power measurement is required only for the CA configuration with the largest aggregated DL CA BW in each frequency band, independently for contiguous and non-contiguous CA; however, if the same frequency band is used for both contiguous and non-contiguous CA, power measurement was performed using the configuration with the largest aggregated BW and maximum output power among contiguous and non-contiguous CA.

| E-UTRA CA configuration (BCS) |                          |                          |
|-------------------------------|--------------------------|--------------------------|
| DL Intra-Band Non-Contiguous  | DL Intra-Band Contiguous | UL Intra-Band Contiguous |
| CA_2A-2A (0)                  | CA_2C (0)                | CA_7C (0) (1) (2)        |
| CA_4A_4A (0) (1)              | CA_7B (0)                | CA_41C (0) (1) (2) (3)   |
| CA_7A_7A (0) (1) (2) (3)      | CA_7C (0) (1) (2)        |                          |
| CA_25A_25A (0) (1)            | CA_12B (0)               |                          |
| CA_41A-41A (0) (1)            | CA_41C (0) (1) (2) (3)   |                          |
| CA_41A-41C (0)                | CA_41D (0)               |                          |
| CA_41C_41A (0)                | CA_66B (0)               |                          |
| CA_66A-66A (0)                | CA_66C (0)               |                          |

### DL Intra-Band Non-Contiguous

| E-UTRA CA configuration (BCS) | Bands |     |     |     | DL  |      |       |     |      |       |     |      |       |     |      |    | UL         |    |        |    |      |        |               |     |             |           |       |             |
|-------------------------------|-------|-----|-----|-----|-----|------|-------|-----|------|-------|-----|------|-------|-----|------|----|------------|----|--------|----|------|--------|---------------|-----|-------------|-----------|-------|-------------|
|                               | PCC   | SCC | TCC | QCC | PCC |      |       | SCC |      |       | TCC |      |       | QCC |      |    | PCC        |    |        |    |      |        |               |     |             |           |       |             |
|                               | 1st   | 2nd | 3rd | 4th | BW  | Freq | Ch    | BW  | Freq | Ch    | BW  | Freq | Ch    | BW  | Freq | Ch | Modulation | RB | Offset | BW | Freq | Ch     | Aggregated BW | MPR | CA Inactive | CA Active | Delta | 3GPP Rel. # |
| CA_2A-2A (0)                  | 2A    | 2A  |     |     | 20  | 1940 | 700   | 20  | 1980 | 1100  |     |      |       |     |      |    | QPSK       | 1  | 49     | 20 | 1860 | 18700  | 40            | 0   | 25.3        | 25.2      | -0.1  | 12          |
| CA_4A_4A (0) (1)              | 4A    | 4A  |     |     | 20  | 2120 | 2050  | 20  | 2145 | 2300  |     |      |       |     |      |    | QPSK       | 1  | 49     | 20 | 1720 | 20050  | 40            | 0   | 25.3        | 25.2      | -0.1  | 12          |
| CA_7A_7A (0) (1) (2) (3)      | 7A    | 7A  |     |     | 20  | 2630 | 2850  | 20  | 2680 | 3350  |     |      |       |     |      |    | QPSK       | 1  | 49     | 20 | 2510 | 20850  | 40            | 0   | 25.3        | 25.3      | 0.0   | 12          |
| CA_25A_25A (0) (1)            | 25A   | 25A |     |     | 20  | 1940 | 8140  | 20  | 1985 | 8590  |     |      |       |     |      |    | QPSK       | 1  | 49     | 20 | 1860 | 26140  | 40            | 0   | 25.3        | 25.2      | -0.1  | 12          |
| CA_41A-41A (0) (1)            | 41A   | 41A |     |     | 20  | 2506 | 39750 | 20  | 2680 | 41490 |     |      |       |     |      |    | QPSK       | 1  | 49     | 20 | 2506 | 39750  | 40            | 0   | 25.1        | 25.0      | -0.1  | 12          |
| CA_41A-41C (0)                | 41A   | 41C | 41C |     | 20  | 2506 | 39750 | 20  | 2660 | 41290 | 20  | 2680 | 41490 |     |      |    | QPSK       | 1  | 49     | 20 | 2506 | 39750  | 60            | 0   | 25.1        | 25.0      | -0.1  | 12          |
| CA_41C_41A (0)                | 41C   | 41C | 41A |     | 20  | 2506 | 39750 | 20  | 2526 | 39950 | 20  | 2680 | 41490 |     |      |    | QPSK       | 1  | 49     | 20 | 2506 | 39750  | 60            | 0   | 25.1        | 25.0      | -0.1  | 12          |
| CA_66A-66A (0)                | 66A   | 66A |     |     | 20  | 2120 | 66536 | 20  | 2170 | 67035 |     |      |       |     |      |    | QPSK       | 1  | 49     | 20 | 1720 | 132072 | 40            | 0   | 25.3        | 25.1      | -0.2  | 13          |

### DL Intra-Band Contiguous

| E-UTRA CA configuration (BCS) | Bands |     |     |     | DL  |       |       |     |      |       |     |      |       |     |      |    | UL         |    |        |    |       |        |               |     |             |           |       |             |
|-------------------------------|-------|-----|-----|-----|-----|-------|-------|-----|------|-------|-----|------|-------|-----|------|----|------------|----|--------|----|-------|--------|---------------|-----|-------------|-----------|-------|-------------|
|                               | PCC   | SCC | TCC | QCC | PCC |       |       | SCC |      |       | TCC |      |       | QCC |      |    | PCC        |    |        |    |       |        |               |     |             |           |       |             |
|                               | 1st   | 2nd | 3rd | 4th | BW  | Freq  | Ch    | BW  | Freq | Ch    | BW  | Freq | Ch    | BW  | Freq | Ch | Modulation | RB | Offset | BW | Freq  | Ch     | Aggregated BW | MPR | CA Inactive | CA Active | Delta | 3GPP Rel. # |
| CA_2C (0)                     | 2C    | 2C  |     |     | 20  | 1960  | 900   | 20  | 1980 | 1100  |     |      |       |     |      |    | QPSK       | 1  | 49     | 20 | 1880  | 18900  | 40            | 0   | 25.3        | 25.2      | -0.1  | 12          |
| CA_7B (0)                     | 7B    | 7B  |     |     | 15  | 2655  | 3100  | 5   | 2665 | 3200  |     |      |       |     |      |    | QPSK       | 1  | 36     | 15 | 2535  | 21100  | 20            | 0   | 25.3        | 25.3      | 0.0   | 13          |
| CA_7C (0) (1) (2)             | 7C    | 7C  |     |     | 20  | 2655  | 3100  | 20  | 2675 | 3300  |     |      |       |     |      |    | QPSK       | 1  | 49     | 20 | 2535  | 21100  | 40            | 0   | 25.3        | 25.3      | 0.0   | 13          |
| CA_12B (0)                    | 12B   | 12B |     |     | 10  | 737.5 | 5095  | 5   | 745  | 5170  |     |      |       |     |      |    | QPSK       | 1  | 24     | 10 | 707.5 | 23095  | 15            | 0   | 24.8        | 24.8      | 0.0   | 12          |
| CA_41C (0) (1) (2) (3)        | 41C   | 41C |     |     | 20  | 2593  | 40620 | 20  | 2613 | 40820 |     |      |       |     |      |    | QPSK       | 1  | 49     | 20 | 2593  | 40620  | 40            | 0   | 25.3        | 25.1      | -0.2  | 13          |
| CA_41D (0)                    | 41D   | 41D | 41D |     | 20  | 2593  | 40620 | 20  | 2613 | 40820 | 20  | 2633 | 41020 |     |      |    | QPSK       | 1  | 49     | 20 | 2593  | 40620  | 60            | 0   | 25.3        | 25.1      | -0.2  | 12          |
| CA_66B (0)                    | 66B   | 66B |     |     | 15  | 2145  | 66786 | 5   | 2155 | 66886 |     |      |       |     |      |    | QPSK       | 1  | 49     | 20 | 1745  | 132322 | 20            | 0   | 25.3        | 25.2      | -0.1  | 13          |
| CA_66C (0)                    | 66C   | 66C |     |     | 20  | 2145  | 66786 | 20  | 2165 | 66986 |     |      |       |     |      |    | QPSK       | 1  | 49     | 20 | 1745  | 132322 | 40            | 0   | 25.3        | 25.2      | -0.1  | 13          |

Uplink CA shall be tested based on the worst-case SAR configuration determined from non-CA SAR testing result. The channel BW, channel number, RB allocation, etc. would be selected to allow contiguous CA of PCC and SCC. One SAR configuration will be selected for UAT and one SAR configuration will be selected for LAT for each supported CA configuration. Uplink output power for UL CA is the total power measured across the PCC and SCC.

UL CA power measurements were performed for both antennas (UAT 1 and LAT 1) at with QPSK modulation based on the worst-case standalone SAR. The tune-up limits are provided in Section 6.3 of this report.

The UL CA mode power measurements represent the total power across both carriers. Measurements were made for all supported PCC bandwidths using the channel/RB combination resulting in the highest standalone output power at the least MPR (0 dB). SCCs were set to use configurations similar to the PCC to establish conservative or worst case equivalent SAR test conditions (highest maximum power with MPR of 0 dB).

The standalone power measurement is the power for the PCC in the non-CA mode (i.e. single carrier power). In all cases the UL CA power is less than or equal to the standalone power, which is in accordance with the tune-up limits in Section 6.3 of this report.

#### LTE-uplink 2CA Band 7 for SAR testing (Refer to Section. 10.21.)

| RF Exposure Conditions | Antenna | E-UTRA CA configuration (BCS) | Bands |     | DL  |      |      |      |        |      | UL   |    |            |    |        |       |      |    |            |    |        |       |     |            |      |              |               |                          |       |             |    |
|------------------------|---------|-------------------------------|-------|-----|-----|------|------|------|--------|------|------|----|------------|----|--------|-------|------|----|------------|----|--------|-------|-----|------------|------|--------------|---------------|--------------------------|-------|-------------|----|
|                        |         |                               | PCC   | SCC | PCC |      |      | SCC  |        |      | PCC  |    |            |    |        |       | SCC  |    |            |    |        |       | MPR | Standalone |      | Aggregate BW | PCC+SCC       |                          |       |             |    |
|                        |         |                               |       |     | 1st | 2nd  | BW   | Freq | Ch     | BW   | Freq | Ch | Modulation | RB | Offset | BW    | Freq | Ch | Modulation | RB | Offset | BW    |     | Freq       | Ch   |              | Tune-Up Limit | CA Power (Total PCC+SCC) | Delta | 3GPP Rel. # |    |
| Head                   | UAT 1   | CA 7C (0) (1) (2)             | 7C    | 7C  | 20  | 2630 | 2850 | 20   | 2649.8 | 3048 | QPSK | 1  | 99         | 20 | 2510   | 20850 | QPSK | 1  | 0          | 20 | 2529.8 | 21048 | 0   | 20.3       | 20.3 | 40           | 0             | 19.8                     | 19.8  | -0.5        | 13 |
| Head                   | UAT 1   | CA 7C (0) (1) (2)             | 7C    | 7C  | 20  | 2655 | 3100 | 20   | 2674.8 | 3298 | QPSK | 1  | 99         | 20 | 2535   | 21100 | QPSK | 1  | 0          | 20 | 2554.8 | 21298 | 0   | 20.3       | 20.3 | 40           | 0             | 19.8                     | 19.7  | -0.6        | 13 |
| Head                   | UAT 1   | CA 7C (0) (1) (2)             | 7C    | 7C  | 20  | 2680 | 3350 | 20   | 2660.2 | 3152 | QPSK | 1  | 0          | 20 | 2560   | 21350 | QPSK | 1  | 99         | 20 | 2540.2 | 21152 | 0   | 20.3       | 20.3 | 40           | 0             | 19.8                     | 19.7  | -0.6        | 13 |
| Body                   | LAT 1   | CA 7C (0) (1) (2)             | 7C    | 7C  | 20  | 2630 | 2850 | 20   | 2649.8 | 3048 | QPSK | 1  | 99         | 20 | 2510   | 20850 | QPSK | 1  | 0          | 20 | 2529.8 | 21048 | 0   | 22.0       | 22.0 | 40           | 0             | 22.0                     | 21.8  | -0.2        | 13 |
| Body                   | LAT 1   | CA 7C (0) (1) (2)             | 7C    | 7C  | 20  | 2655 | 3100 | 20   | 2674.8 | 3298 | QPSK | 1  | 99         | 20 | 2535   | 21100 | QPSK | 1  | 0          | 20 | 2554.8 | 21298 | 0   | 22.0       | 22.0 | 40           | 0             | 22.0                     | 21.9  | -0.1        | 13 |
| Body                   | LAT 1   | CA 7C (0) (1) (2)             | 7C    | 7C  | 20  | 2680 | 3350 | 20   | 2660.2 | 3152 | QPSK | 1  | 0          | 20 | 2560   | 21350 | QPSK | 1  | 99         | 20 | 2540.2 | 21152 | 0   | 22.0       | 22.0 | 40           | 0             | 22.0                     | 22.0  | 0.0         | 13 |

#### LTE-uplink 2CA Band 41 for SAR testing (Refer to Section. 10.22.)

| RF Exposure Conditions | Antenna | E-UTRA CA configuration (BCS) | Bands |     | DL  |        |       |     |        |       | UL         |    |        |    |        |       |            |    |        |    |        |       |     |                 |                 |               |     |               |                          |       |             |
|------------------------|---------|-------------------------------|-------|-----|-----|--------|-------|-----|--------|-------|------------|----|--------|----|--------|-------|------------|----|--------|----|--------|-------|-----|-----------------|-----------------|---------------|-----|---------------|--------------------------|-------|-------------|
|                        |         |                               | PCC   | SCC | PCC |        |       | SCC |        |       | PCC        |    |        |    |        |       | SCC        |    |        |    |        |       | MPR | Standalone      |                 | PCC+SCC       |     |               |                          |       |             |
|                        |         |                               | 1st   | 2nd | BW  | Freq   | Ch    | BW  | Freq   | Ch    | Modulation | RB | Offset | BW | Freq   | Ch    | Modulation | RB | Offset | BW | Freq   | Ch    |     | PCC CA Inactive | SCC CA Inactive | Aggregated BW | MPR | Tune-Up Limit | CA Power (Total PCC+SCC) | Delta | 3GPP Rel. # |
| Head                   | UAT1    | CA 41C (0) (1) (2) (3)        | 41C   | 41C | 20  | 2506   | 39750 | 20  | 2525.8 | 39948 | QPSK       | 1  | 99     | 20 | 2506   | 39750 | QPSK       | 1  | 0      | 20 | 2525.8 | 39948 | 0   | 21.2            | 21.2            | 40            | 0   | 19.3          | 19.2                     | -2.0  | 13          |
| Head                   | UAT1    | CA 41C (0) (1) (2) (3)        | 41C   | 41C | 20  | 2549.5 | 40185 | 20  | 2569.3 | 40383 | QPSK       | 1  | 99     | 20 | 2549.5 | 40185 | QPSK       | 1  | 0      | 20 | 2569.3 | 40383 | 0   | 21.2            | 21.2            | 40            | 0   | 19.3          | 19.1                     | -2.1  | 13          |
| Head                   | UAT1    | CA 41C (0) (1) (2) (3)        | 41C   | 41C | 20  | 2593   | 40620 | 20  | 2612.8 | 40818 | QPSK       | 1  | 99     | 20 | 2593   | 40620 | QPSK       | 1  | 0      | 20 | 2612.8 | 40818 | 0   | 21.2            | 21.2            | 40            | 0   | 19.3          | 19.1                     | -2.1  | 13          |
| Head                   | UAT1    | CA 41C (0) (1) (2) (3)        | 41C   | 41C | 20  | 2636.5 | 41055 | 20  | 2656.3 | 41253 | QPSK       | 1  | 99     | 20 | 2636.5 | 41055 | QPSK       | 1  | 0      | 20 | 2656.3 | 41253 | 0   | 21.3            | 21.3            | 40            | 0   | 19.3          | 19.1                     | -2.2  | 13          |
| Head                   | UAT1    | CA 41C (0) (1) (2) (3)        | 41C   | 41C | 20  | 2680   | 41490 | 20  | 2660.2 | 41292 | QPSK       | 1  | 0      | 20 | 2680   | 41490 | QPSK       | 1  | 99     | 20 | 2660.2 | 41292 | 0   | 21.3            | 21.3            | 40            | 0   | 19.3          | 19.0                     | -2.3  | 13          |
| Body                   | LAT1    | CA 41C (0) (1) (2) (3)        | 41C   | 41C | 20  | 2506   | 39750 | 20  | 2525.8 | 39948 | QPSK       | 1  | 99     | 20 | 2506   | 39750 | QPSK       | 1  | 0      | 20 | 2525.8 | 39948 | 0   | 23.3            | 23.3            | 40            | 0   | 23.3          | 23.1                     | -0.2  | 13          |
| Body                   | LAT1    | CA 41C (0) (1) (2) (3)        | 41C   | 41C | 20  | 2549.5 | 40185 | 20  | 2569.3 | 40383 | QPSK       | 1  | 99     | 20 | 2549.5 | 40185 | QPSK       | 1  | 0      | 20 | 2569.3 | 40383 | 0   | 23.3            | 23.3            | 40            | 0   | 23.3          | 23.2                     | -0.1  | 13          |
| Body                   | LAT1    | CA 41C (0) (1) (2) (3)        | 41C   | 41C | 20  | 2593   | 40620 | 20  | 2612.8 | 40818 | QPSK       | 1  | 99     | 20 | 2593   | 40620 | QPSK       | 1  | 0      | 20 | 2612.8 | 40818 | 0   | 23.3            | 23.3            | 40            | 0   | 23.3          | 23.2                     | -0.1  | 13          |
| Body                   | LAT1    | CA 41C (0) (1) (2) (3)        | 41C   | 41C | 20  | 2636.5 | 41055 | 20  | 2656.3 | 41253 | QPSK       | 1  | 99     | 20 | 2636.5 | 41055 | QPSK       | 1  | 0      | 20 | 2656.3 | 41253 | 0   | 23.3            | 23.3            | 40            | 0   | 23.3          | 23.3                     | 0.0   | 13          |
| Body                   | LAT1    | CA 41C (0) (1) (2) (3)        | 41C   | 41C | 20  | 2680   | 41490 | 20  | 2660.2 | 41292 | QPSK       | 1  | 0      | 20 | 2680   | 41490 | QPSK       | 1  | 99     | 20 | 2660.2 | 41292 | 0   | 23.2            | 23.2            | 40            | 0   | 23.3          | 23.2                     | 0.0   | 13          |

## 9.6. WLAN SISO (P<sub>Cell\_ON</sub>)

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-Worn configuration by the user. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing. Test reductions have applied accordingly following the SAR KDB Procedure for the supported wireless technologies of the DUT. This is noted for the Wi-Fi technology in their respective Sections.

For 2.4 & 5GHz band, there are two use cases:

- P<sub>Cell\_ON</sub>: This will be used when both Cellular and Wi-Fi radios are ON.
- P<sub>Cell\_OFF</sub>: This will be used when only Wi-Fi radio is ON

### Measured Results

| Band (GHz) | Mode     | No. of Transmitters | Ch # | Freq. (MHz) | MODE A                 |                        |                        |                        | MODE B                 |                        |                        |                        |
|------------|----------|---------------------|------|-------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|            |          |                     |      |             | UAT 1                  |                        | LAT 3                  |                        | UAT 1                  |                        | LAT 3                  |                        |
|            |          |                     |      |             | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) |
| 2.4        | 802.11b  | 1 Tx                | 1    | 2412        | 13.0                   | 13.0                   | 20.5                   | 20.5                   | 15.5                   | 15.5                   | 15.5                   | 15.5                   |
|            |          |                     | 2    | 2417        | 13.0                   | 13.0                   | 22.0                   | 22.0                   | 15.5                   | 15.5                   | 15.5                   | 15.5                   |
|            |          |                     | 6    | 2437        | 13.0                   | 13.0                   | 22.0                   | 22.0                   | 15.5                   | 15.5                   | 15.5                   | 15.5                   |
|            |          |                     | 11   | 2462        | 13.0                   | 13.0                   | 22.0                   | 22.0                   | 15.5                   | 15.5                   | 15.5                   | 15.5                   |
| Band (GHz) | Mode     | No. of Transmitters | Ch # | Freq. (MHz) | MODE A                 |                        |                        |                        | MODE B                 |                        |                        |                        |
|            |          |                     |      |             | UAT 2                  |                        | LAT 3                  |                        | UAT 2                  |                        | LAT 3                  |                        |
|            |          |                     |      |             | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) |
| 5.3        | 802.11a  | 1 Tx                | 52   | 5260        | Not Required           | Not Required           | 21.0                   | 21.0                   | Not Required           | Not Required           | Not Required           | Not Required           |
|            |          |                     | 56   | 5280        |                        |                        | 21.0                   | 21.0                   |                        |                        |                        |                        |
|            |          |                     | 60   | 5300        |                        |                        | 21.0                   | 21.0                   |                        |                        |                        |                        |
|            |          |                     | 64   | 5320        |                        |                        | 19.0                   | 19.0                   |                        |                        |                        |                        |
|            | 802.11ac | 1 Tx VHT80          | 58   | 5290        | 15.0                   | 15.0                   | Not Required           | Not Required           | 11.0                   | 11.0                   | 11.3                   | 11.3                   |
| 5.5        | 802.11a  | 1 Tx                | 104  | 5520        | Not Required           | Not Required           | 21.0                   | 21.0                   | Not Required           | Not Required           | Not Required           | Not Required           |
|            |          |                     | 120  | 5600        |                        |                        | 21.0                   | 21.0                   |                        |                        |                        |                        |
|            |          |                     | 144  | 5720        |                        |                        | 21.0                   | 21.0                   |                        |                        |                        |                        |
|            | 802.11ac | 1 Tx VHT80          | 106  | 5530        | 16.0                   | 16.0                   | Not Required           | Not Required           | 10.5                   | 10.5                   | 12.5                   | 12.5                   |
|            |          |                     | 122  | 5610        | 16.0                   | 16.0                   |                        |                        | 10.5                   | 10.5                   | 12.5                   | 12.5                   |
|            |          |                     | 138  | 5690        | 16.0                   | 16.0                   |                        |                        | 10.5                   | 10.5                   | 12.5                   | 12.5                   |
| 5.8        | 802.11a  | 1 Tx                | 149  | 5745        | Not Required           | Not Required           | 21.5                   | 21.5                   | Not Required           | Not Required           | Not Required           | Not Required           |
|            |          |                     | 157  | 5785        |                        |                        | 21.5                   | 21.5                   |                        |                        |                        |                        |
|            |          |                     | 165  | 5825        |                        |                        | 21.5                   | 21.5                   |                        |                        |                        |                        |
|            | 802.11ac | 1 Tx VHT80          | 155  | 5775        | 16.0                   | 16.0                   | Not Required           | Not Required           | 10.5                   | 10.5                   | 12.0                   | 12.0                   |

### Note(s):

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

## 9.7. WLAN MIMO (P<sub>Cell\_ON</sub>)

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-Worn configuration by the user. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing. Test reductions have applied accordingly following the SAR KDB Procedure for the supported wireless technologies of the DUT. This is noted for the Wi-Fi technology in their respective Sections.

For 2.4 & 5GHz band, there are two use cases:

- P<sub>Cell\_ON</sub>: This will be used when both Cellular and Wi-Fi radios are ON.
- P<sub>Cell\_OFF</sub>: This will be used when only Wi-Fi radio is ON

| Band (GHz) | Mode     | No. of Transmitters     | Ch # | Freq. (MHz) | MODE A                 |                        |                        |                        | MODE B                 |                        |                        |                        |
|------------|----------|-------------------------|------|-------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|            |          |                         |      |             | UAT 1                  |                        | LAT 3                  |                        | UAT 1                  |                        | LAT 3                  |                        |
|            |          |                         |      |             | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) |
| 2.4        | 802.11g  | 2 Tx CDD                | 1    | 2412        | 13.0                   | 13.0                   | 16.5                   | 16.5                   | 15.5                   | 15.5                   | 15.5                   | 15.5                   |
|            |          |                         | 4    | 2427        | 13.0                   | 13.0                   | 21.5                   | 21.5                   | 15.5                   | 15.5                   | 15.5                   | 15.5                   |
|            |          |                         | 6    | 2437        | 13.0                   | 13.0                   | 21.5                   | 21.5                   | 15.5                   | 15.5                   | 15.5                   | 15.5                   |
|            |          |                         | 8    | 2447        | 13.0                   | 13.0                   | 21.5                   | 21.5                   | 15.5                   | 15.5                   | 15.5                   | 15.5                   |
|            |          |                         | 11   | 2462        | 13.0                   | 13.0                   | 16.5                   | 16.5                   | 15.5                   | 15.5                   | 15.5                   | 15.5                   |
| Band (GHz) | Mode     | No. of Transmitters     | Ch # | Freq. (MHz) | MODE A                 |                        |                        |                        | MODE B                 |                        |                        |                        |
|            |          |                         |      |             | UAT 2                  |                        | LAT 3                  |                        | UAT 2                  |                        | LAT 3                  |                        |
|            |          |                         |      |             | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) |
| 5.3        | 802.11n  | 2 Tx HT40 CDD/STBC/SDM  | 54   | 5270        | 15.0                   | 15.0                   | 19.5                   | 19.5                   | Not required           | Not required           | Not required           | Not required           |
|            |          |                         | 62   | 5310        | 15.0                   | 15.0                   | 17.0                   | 17.0                   | Not required           | Not required           | Not required           | Not required           |
|            | 802.11ac | 2 Tx VHT80 CDD/STBC/SDM | 58   | 5290        | Not required           | Not required           | Not required           | Not required           | 11.0                   | 11.0                   | 11.3                   | 11.3                   |
| 5.5        | 802.11ac | 2 Tx VHT80 CDD/STBC/SDM | 106  | 5530        | 16.0                   | 16.0                   | 16.5                   | 16.5                   | 10.5                   | 10.3                   | 12.5                   | 12.3                   |
|            |          |                         | 122  | 5610        | 16.0                   | 16.0                   | 19.5                   | 19.5                   | 10.5                   | 10.3                   | 12.5                   | 12.3                   |
|            |          |                         | 138  | 5690        | 16.0                   | 16.0                   | 19.5                   | 19.5                   | 10.5                   | 10.3                   | 12.5                   | 12.3                   |
| 5.8        | 802.11a  | 2 Tx                    | 153  | 5765        | 16.0                   | 16.0                   | 21.5                   | 21.5                   | Not required           | Not required           | Not required           | Not required           |
|            |          |                         | 157  | 5785        | 16.0                   | 16.0                   | 21.5                   | 21.5                   |                        |                        |                        |                        |
|            |          |                         | 161  | 5805        | 16.0                   | 16.0                   | 21.5                   | 21.5                   |                        |                        |                        |                        |
|            | 802.11ac | 2 Tx VHT80 CDD/STBC/SDM | 155  | 5775        | Not required           | Not required           | Not required           | Not required           | 10.5                   | 10.5                   | 12.0                   | 12.0                   |

### Note(s):

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

## 9.8. WLAN SISO (P<sub>Cell\_OFF</sub>)

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-Worn configuration by the user. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing. Test reductions have applied accordingly following the SAR KDB Procedure for the supported wireless technologies of the DUT. This is noted for the Wi-Fi technology in their respective Sections.

For 2.4 & 5GHz band, there are two use cases:

- P<sub>Cell\_ON</sub>: This will be used when both Cellular and Wi-Fi radios are ON.
- P<sub>Cell\_OFF</sub>: This will be used when only Wi-Fi radio is ON

| Band (GHz) | Mode     | No. of Transmitters | Ch # | Freq. (MHz) | MODE A                 |                        |                        |                        | MODE B                 |                        |                        |                        |
|------------|----------|---------------------|------|-------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|            |          |                     |      |             | UAT 1                  |                        | LAT 3                  |                        | UAT 1                  |                        | LAT 3                  |                        |
|            |          |                     |      |             | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) |
| 2.4        | 802.11b  | 1 Tx                | 1    | 2412        | 18.3                   | 18.3                   | 20.5                   | 20.5                   | 18.8                   | 18.8                   | 20.5                   | 20.5                   |
|            |          |                     | 2    | 2417        | 18.3                   | 18.3                   | 22.0                   | 22.0                   | 18.8                   | 18.8                   | 20.8                   | 20.8                   |
|            |          |                     | 6    | 2437        | 18.3                   | 18.2                   | 22.0                   | 22.0                   | 18.8                   | 18.8                   | 20.8                   | 20.8                   |
|            |          |                     | 11   | 2462        | 18.3                   | 18.3                   | 22.0                   | 22.0                   | 18.8                   | 18.8                   | 20.8                   | 20.8                   |
| Band (GHz) | Mode     | No. of Transmitters | Ch # | Freq. (MHz) | MODE A                 |                        |                        |                        | MODE B                 |                        |                        |                        |
|            |          |                     |      |             | UAT 2                  |                        | LAT 3                  |                        | UAT 2                  |                        | LAT 3                  |                        |
|            |          |                     |      |             | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) |
| 5.3        | 802.11a  | 1 Tx                | 52   | 5260        | 21.0                   | 21.0                   | 21.0                   | 21.0                   | Not required           | Not required           | Not required           | Not required           |
|            |          |                     | 56   | 5280        | 21.0                   | 21.0                   | 21.0                   | 21.0                   |                        |                        |                        |                        |
|            |          |                     | 60   | 5300        | 21.0                   | 21.0                   | 21.0                   | 21.0                   |                        |                        |                        |                        |
|            |          |                     | 64   | 5320        | 19.0                   | 19.0                   | 19.0                   | 19.0                   |                        |                        |                        |                        |
|            | 802.11n  | 1 Tx HT40           | 54   | 5270        | Not required           | Not required           | Not required           | Not required           | Not required           | Not required           | 18.0                   | 18.0                   |
|            |          |                     | 62   | 5310        | Not required           | Not required           | Not required           | Not required           |                        |                        | 18.0                   | 18.0                   |
|            | 802.11ac | 1 Tx VHT80          | 58   | 5290        | Not required           | Not required           | Not required           | Not required           | 15.3                   | 15.3                   | Not required           | Not required           |
|            |          |                     |      |             |                        |                        |                        |                        |                        |                        |                        |                        |
| 5.5        | 802.11a  | 1 Tx                | 104  | 5520        | 21.0                   | 21.0                   | 21.0                   | 21.0                   | Not required           | Not required           | Not required           | Not required           |
|            |          |                     | 120  | 5600        | 21.0                   | 21.0                   | 21.0                   | 21.0                   |                        |                        |                        |                        |
|            |          |                     | 144  | 5720        | 21.0                   | 21.0                   | 21.0                   | 21.0                   |                        |                        |                        |                        |
|            | 802.11ac | 1 Tx VHT80          | 106  | 5530        | Not required           | Not required           | Not required           | Not required           | 14.8                   | 14.8                   | 17.5                   | 17.5                   |
|            |          |                     | 122  | 5610        |                        |                        |                        |                        | 14.8                   | 14.8                   | 19.3                   | 19.3                   |
|            |          |                     | 138  | 5690        |                        |                        |                        |                        | 14.8                   | 14.8                   | 19.3                   | 19.3                   |
| 5.8        | 802.11a  | 1 Tx                | 149  | 5745        | 21.0                   | 20.1                   | 21.5                   | 21.5                   | Not required           | Not required           | Not required           | Not required           |
|            |          |                     | 157  | 5785        | 21.0                   | 20.1                   | 21.5                   | 21.5                   |                        |                        |                        |                        |
|            |          |                     | 165  | 5825        | 21.0                   | 20.1                   | 21.5                   | 21.5                   |                        |                        |                        |                        |
|            | 802.11ac | 1 Tx VHT80          | 155  | 5775        | Not required           | Not required           | Not required           | Not required           | 14.8                   | 14.6                   | 18.8                   | 18.8                   |

### Note(s):

- The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

## 9.9. WLAN MIMO (P<sub>Cell\_OFF</sub>)

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-Worn configuration by the user. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing. Test reductions have applied accordingly following the SAR KDB Procedure for the supported wireless technologies of the DUT. This is noted for the Wi-Fi technology in their respective Sections.

For 2.4 & 5GHz band, there are two use cases:

- P<sub>Cell\_ON</sub>: This will be used when both Cellular and Wi-Fi radios are ON.
- P<sub>Cell\_OFF</sub>: This will be used when only Wi-Fi radio is ON

| Band (GHz) | Mode     | No. of Transmitters      | Ch # | Freq. (MHz) | MODE A                 |                        |                        |                        | MODE B                 |                        |                        |                        |
|------------|----------|--------------------------|------|-------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|            |          |                          |      |             | UAT 1                  |                        | LAT 3                  |                        | UAT 1                  |                        | LAT 3                  |                        |
|            |          |                          |      |             | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) |
| 2.4        | 802.11g  | 2 Tx CDD                 | 1    | 2412        | 16.5                   | 16.5                   | 16.5                   | 16.5                   | 16.5                   | 16.5                   | 16.5                   | 16.5                   |
|            |          |                          | 4    | 2427        | 18.3                   | 18.3                   | 21.5                   | 21.5                   | 18.8                   | 18.8                   | 20.8                   | 20.8                   |
|            |          |                          | 6    | 2437        | 18.3                   | 18.3                   | 21.5                   | 21.5                   | 18.8                   | 18.8                   | 20.8                   | 20.8                   |
|            |          |                          | 8    | 2447        | 18.3                   | 18.3                   | 21.5                   | 21.5                   | 18.8                   | 18.8                   | 20.5                   | 20.5                   |
|            |          |                          | 11   | 2462        | 16.5                   | 16.5                   | 16.5                   | 16.5                   | 16.5                   | 16.5                   | 16.5                   | 16.5                   |
| Band (GHz) | Mode     | No. of Transmitters      | Ch # | Freq. (MHz) | MODE A                 |                        |                        |                        | MODE B                 |                        |                        |                        |
|            |          |                          |      |             | UAT 2                  |                        | LAT 3                  |                        | UAT 2                  |                        | LAT 3                  |                        |
|            |          |                          |      |             | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) |
| 5.3        | 802.11n  | 2 Tx HT40 CDD/STBC/SD M  | 54   | 5270        | 19.5                   | 19.5                   | 19.5                   | 19.5                   | 15.3                   | 15.3                   | 18.0                   | 17.9                   |
|            |          |                          | 62   | 5310        | 17.0                   | 17.0                   | 17.0                   | 17.0                   | 15.3                   | 15.3                   | 17.0                   | 17.0                   |
| 5.5        | 802.11ac | 2 Tx VHT80 CDD/STBC/SD M | 106  | 5530        | 16.5                   | 16.5                   | 16.5                   | 16.5                   | 14.8                   | 14.8                   | 16.5                   | 16.5                   |
|            |          |                          | 122  | 5610        | 19.5                   | 19.5                   | 19.5                   | 19.5                   | 14.8                   | 14.8                   | 19.3                   | 19.3                   |
|            |          |                          | 138  | 5690        | 19.5                   | 19.5                   | 19.5                   | 19.5                   | 14.8                   | 14.8                   | 19.3                   | 19.3                   |
| 5.8        | 802.11a  | 2 Tx CDD                 | 149  | 5745        | 21.0                   | 21.0                   | 21.5                   | 21.5                   | Not Required           | Not Required           | Not Required           | Not Required           |
|            |          |                          | 157  | 5785        | 21.0                   | 21.0                   | 21.5                   | 21.5                   |                        |                        |                        |                        |
|            |          |                          | 165  | 5825        | 21.0                   | 21.0                   | 21.5                   | 21.5                   |                        |                        |                        |                        |
|            | 802.11ac | 2 Tx VHT80 CDD/STBC/SD M | 155  | 5775        | Not Required           | Not Required           | Not Required           | Not Required           | 14.8                   | 14.8                   | 18.8                   | 18.8                   |

### Note(s):

1. The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures. For "Not required", SAR Test reduction was applied from KDB 248227 guidance, Sec. 2.1, b), 1) when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

## 9.10. Bluetooth

Power measurements were performed in accordance to the device's two power modes, Mode A and Mode B for each antenna. Mode A power is used when the device is used against the user's head or away from the body. Mode B power is used when the device is used in a Body-Worn configuration by the user. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### $P_{low}$

| Band (GHz) | Mode              | No. of Transmitters | Ch # | Freq. (MHz) | MODE A                 |                        |                        |                        | MODE B                 |                        |                        |                        |
|------------|-------------------|---------------------|------|-------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|            |                   |                     |      |             | UAT 1                  |                        | LAT 3                  |                        | UAT 1                  |                        | LAT 3                  |                        |
|            |                   |                     |      |             | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) |
| 2.4        | V 5.0 + EDR, GFSK | 1 Tx                | 0    | 2402        | 10.0                   | 10.0                   | 10.0                   | 10.0                   | 10.0                   | 10.0                   | 10.0                   | 10.0                   |
|            |                   |                     | 39   | 2441        | 10.0                   | 10.0                   | 10.0                   | 10.0                   | 10.0                   | 10.0                   | 10.0                   | 10.0                   |
|            |                   |                     | 78   | 2480        | 10.0                   | 10.0                   | 10.0                   | 10.0                   | 10.0                   | 10.0                   | 10.0                   | 10.0                   |

### $P_{High}$

| Band (GHz) | Mode              | No. of Transmitters | Ch # | Freq. (MHz) | MODE A                 |                        |                        |                        | MODE B                 |                        |                        |                        |
|------------|-------------------|---------------------|------|-------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|            |                   |                     |      |             | UAT 1                  |                        | LAT 3                  |                        | UAT 1                  |                        | LAT 3                  |                        |
|            |                   |                     |      |             | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) |
| 2.4        | V 5.0 + EDR, GFSK | 1 Tx                | 0    | 2402        | 12.0                   | 12.0                   | 16.5                   | 16.5                   | 13.5                   | 13.5                   | 13.5                   | 13.5                   |
|            |                   |                     | 39   | 2441        | 12.0                   | 12.0                   | 16.5                   | 16.5                   | 13.5                   | 13.5                   | 13.5                   | 13.5                   |
|            |                   |                     | 78   | 2480        | 12.0                   | 12.0                   | 16.5                   | 16.5                   | 13.5                   | 13.5                   | 13.5                   | 13.5                   |

### $P_{standalone}$

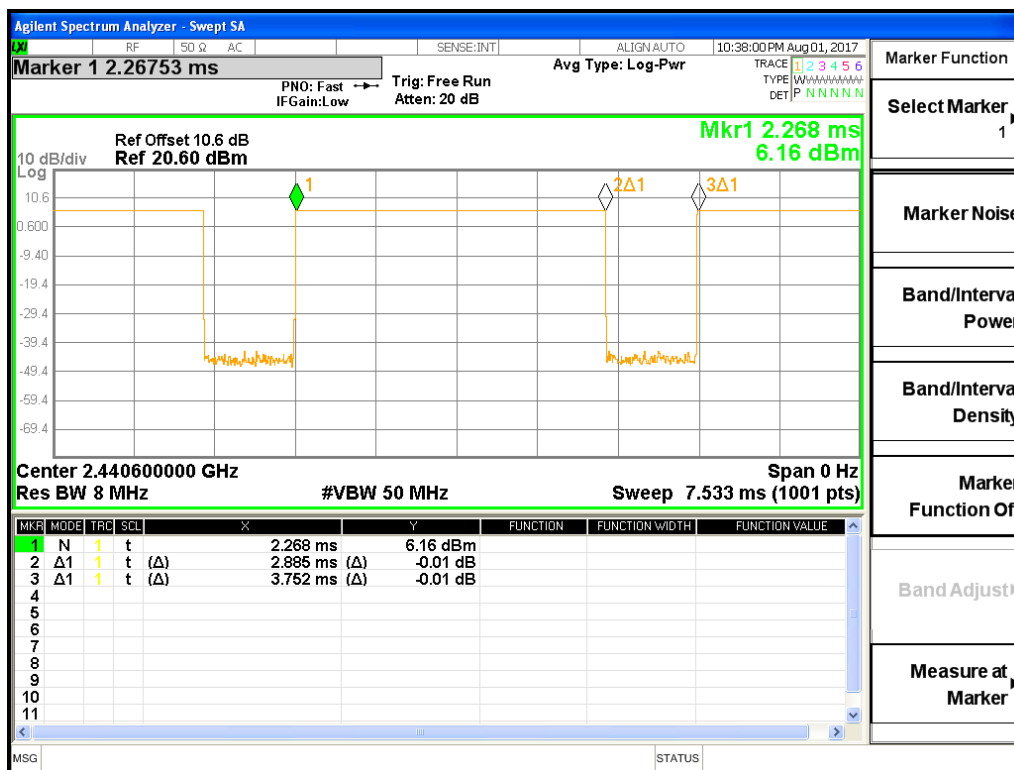
| Band (GHz) | Mode              | No. of Transmitters | Ch # | Freq. (MHz) | MODE A                 |                        |                        |                        | MODE B                 |                        |                        |                        |
|------------|-------------------|---------------------|------|-------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
|            |                   |                     |      |             | UAT 1                  |                        | LAT 3                  |                        | UAT 1                  |                        | LAT 3                  |                        |
|            |                   |                     |      |             | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) | Max. Power Limit (dBm) | Measured Results (dBm) |
| 2.4        | V 5.0 + EDR, GFSK | 1 Tx                | 0    | 2402        | 14.5                   | 14.5                   | 19.5                   | 19.5                   | 16.5                   | 16.5                   | 16.5                   | 16.5                   |
|            |                   |                     | 39   | 2441        | 14.5                   | 14.5                   | 19.5                   | 19.5                   | 16.5                   | 16.5                   | 16.5                   | 16.5                   |
|            |                   |                     | 78   | 2480        | 14.5                   | 14.5                   | 19.5                   | 19.5                   | 16.5                   | 16.5                   | 16.5                   | 16.5                   |

### Notes:

1. Bluetooth  $P_{high}$  is used when Wi-Fi antenna is active and Cellular antenna is inactive.
2. Bluetooth  $P_{low}$  is used with Wi-Fi and Cellular antennas are active or with Wi-Fi inactive and Cellular antenna is active.
3. Bluetooth  $P_{standalone}$  is used with Wi-Fi and Cellular antennas are inactive.

**Duty Factor Measured Results**

| Mode | Type | T on (ms) | Period (ms) | Duty Cycle | Crest Factor (1/duty cycle) |
|------|------|-----------|-------------|------------|-----------------------------|
| GFSK | DH5  | 2.885     | 3.752       | 76.89%     | 1.30                        |

**GFSK Duty Cycle plot**

## 10. Measured and Reported (Scaled) SAR Results

SAR Testing was performed based on the power measurement results from Sec. 9. Output power from both power modes: Mode A and Mode B were applied for each respective antenna. Mode A power is used when the device is used against the user's head, or away from the body. Mode B is used when the device is used in a body-worn configuration by the user. Mode C is used when the device is placed on a proprietary Apple wireless charger, as described in Sec. 6.3.5. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

Test Tables were organized and labeled by antenna, UAT 1 and LAT 1 for cellular technologies. And for Wi-Fi/Bluetooth technologies, Test Tables were organized and labeled by power configuration and antenna (UAT 1 (Wi-Fi 2.4 GHz), UAT 2 (Wi-Fi 5 GHz), and LAT 3 (Wi-Fi-BT 2.4/5 GHz). Applicable SAR Test Reductions have been applied accordingly following the SAR KDB Procedure as follows:

### GENERAL:

#### 1. Reference from KDB 447498 D01 General RF Exposure Guidance:

Testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

- $\leq 0.8$  W/kg or 2.0 W/kg, for 1-g or 10-g respectively, when the transmission band is  $\leq 100$  MHz
- $\leq 0.6$  W/kg or 1.5 W/kg, for 1-g or 10-g respectively, when the transmission band is between 100 MHz and 200 MHz
- $\leq 0.4$  W/kg or 1.0 W/kg, for 1-g or 10-g respectively, when the transmission band is  $\geq 200$  MHz

#### 2. Reference from KDB 648474 D04 Handset SAR:

With headset attached, when the reported SAR for 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.

### WIRELESS TECHNOLOGY:

#### 3. Reference KDB 941225 D01 SAR test for 3G devices:

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. Reference from KDB 941225 D05 SAR for LTE Devices:

SAR test reduction is applied using the following criteria:

- a) Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
- b) When the reported SAR is  $> 0.8$  W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
- c) Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are  $> 0.8$  W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation  $< 1.45$  W/kg.
- d) Testing for 16-QAM modulation is not required because the reported SAR for QPSK is  $< 1.45$  W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.
- e) Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is  $< 1.45$  W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.
- f) For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing; therefore, the requirement for H, M and L channels may not fully apply.

**5. Reference from KDB 248227 D01 SAR meas for 802.11:**

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.
    - When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is  $\leq 1.2$  W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.
    - When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is  $\leq 1.2$  W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR.

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.

## 10.1. GSM850

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions | Mode         | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|--------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |              |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | GPRS 2 Slots | 0          | Left Touch    | 190   | 836.6       | 27.8          | 27.8  | 0.265          | 0.265  | 0.193           | 0.193  | 1        |
|                        |              |            | Left Tilt     | 190   | 836.6       | 27.8          | 27.8  | 0.234          | 0.234  | 0.120           | 0.120  |          |
|                        |              |            | Right Touch   | 190   | 836.6       | 27.8          | 27.8  | 0.229          | 0.229  | 0.143           | 0.143  |          |
|                        |              |            | Right Tilt    | 190   | 836.6       | 27.8          | 27.8  | 0.182          | 0.182  | 0.099           | 0.099  |          |
| Body-worn & Hotspot    | GPRS 2 Slots | 5          | Rear          | 190   | 836.6       | 27.8          | 27.8  | 0.181          | 0.181  | 0.100           | 0.100  |          |
| Front                  |              |            | 190           | 836.6 | 27.8        | 27.8          | 0.127 | 0.127          | 0.071  | 0.071           |        |          |
| Hotspot                |              |            | Edge 1        | 190   | 836.6       | 27.8          | 27.8  | 0.139          | 0.139  | 0.065           | 0.065  |          |
|                        |              |            | Edge 2        | 190   | 836.6       | 27.8          | 27.8  | 0.175          | 0.175  | 0.116           | 0.116  |          |
|                        |              |            | Edge 4        | 190   | 836.6       | 27.8          | 27.8  | 0.059          | 0.059  | 0.039           | 0.039  |          |

### LAT 1

| RF Exposure Conditions | Mode         | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|--------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |              |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | GPRS 2 Slots | 0          | Left Touch    | 190   | 836.6       | 30.3          | 30.3  | 0.181          | 0.181  | 0.139           | 0.139  |          |
|                        |              |            | Left Tilt     | 190   | 836.6       | 30.3          | 30.3  | 0.078          | 0.078  | 0.061           | 0.061  |          |
|                        |              |            | Right Touch   | 190   | 836.6       | 30.3          | 30.3  | 0.141          | 0.141  | 0.107           | 0.107  |          |
|                        |              |            | Right Tilt    | 190   | 836.6       | 30.3          | 30.3  | 0.080          | 0.080  | 0.063           | 0.063  |          |
| Body-worn & Hotspot    | GPRS 2 Slots | 5          | Rear          | 190   | 836.6       | 30.3          | 30.3  | 0.268          | 0.268  | 0.140           | 0.140  | 2        |
| Front                  |              |            | 190           | 836.6 | 30.3        | 30.3          | 0.149 | 0.149          | 0.089  | 0.089           |        |          |
| Edge 2                 |              |            | 190           | 836.6 | 30.3        | 30.3          | 0.142 | 0.142          | 0.093  | 0.093           |        |          |
| Edge 3                 |              |            | 190           | 836.6 | 30.3        | 30.3          | 0.179 | 0.179          | 0.080  | 0.080           |        |          |
| Edge 4                 |              |            | 190           | 836.6 | 30.3        | 30.3          | 0.269 | 0.269          | 0.178  | 0.178           | 3      |          |
| Hotspot                |              |            |               |       |             |               |       |                |        |                 |        |          |

## 10.2. GSM1900

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions    | Mode         | Dist. (mm) | Test Position | Ch #.  | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|---------------------------|--------------|------------|---------------|--------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                           |              |            |               |        |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head VoIP                 | GPRS 2 Slots | 0          | Left Touch    | 661    | 1880.0      | 26.0          | 25.0  | 0.221          | 0.278  | 0.121           | 0.152  | 4        |
|                           |              |            | Left Tilt     | 661    | 1880.0      | 26.0          | 25.0  | 0.225          | 0.283  | 0.115           | 0.145  |          |
|                           |              |            | Right Touch   | 661    | 1880.0      | 26.0          | 25.0  | 0.512          | 0.645  | 0.271           | 0.341  |          |
|                           |              |            | Right Tilt    | 661    | 1880.0      | 26.0          | 25.0  | 0.508          | 0.640  | 0.232           | 0.292  |          |
| Body-worn(VoIP) & Hotspot | GPRS 2 Slots | 5          | Rear          | 661    | 1880.0      | 26.5          | 25.0  | 0.562          | 0.794  | 0.261           | 0.369  |          |
| Front                     |              |            | 661           | 1880.0 | 26.5        | 25.0          | 0.323 | 0.456          | 0.162  | 0.229           |        |          |
| Edge 1                    |              |            | 661           | 1880.0 | 26.5        | 25.0          | 0.381 | 0.538          | 0.159  | 0.225           |        |          |
| Edge 2                    |              |            | 661           | 1880.0 | 26.5        | 25.0          | 0.037 | 0.052          | 0.018  | 0.025           |        |          |
| Edge 4                    |              |            | 661           | 1880.0 | 26.5        | 25.0          | 0.252 | 0.356          | 0.136  | 0.192           |        |          |

### LAT 1

| RF Exposure Conditions    | Mode         | Dist. (mm) | Test Position | Ch #.  | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |  |
|---------------------------|--------------|------------|---------------|--------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|--|
|                           |              |            |               |        |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |  |
| Head VoIP                 | GPRS 2 Slots | 0          | Left Touch    | 661    | 1880.0      | 29.8          | 28.5  | 0.092          | 0.124  | 0.058           | 0.078  |          |  |
|                           |              |            | Left Tilt     | 661    | 1880.0      | 29.8          | 28.5  | 0.062          | 0.084  | 0.037           | 0.050  |          |  |
|                           |              |            | Right Touch   | 661    | 1880.0      | 29.8          | 28.5  | 0.170          | 0.229  | 0.104           | 0.140  |          |  |
|                           |              |            | Right Tilt    | 661    | 1880.0      | 29.8          | 28.5  | 0.094          | 0.126  | 0.054           | 0.073  |          |  |
| Body-worn(VoIP) & Hotspot | GPRS 2 Slots | 5          | Rear          | 512    | 1850.2      | 27.3          | 27.3  | 1.030          | 1.030  | 0.495           | 0.495  | 5        |  |
|                           |              |            |               | 661    | 1880.0      | 27.3          | 27.3  | 0.900          | 0.900  | 0.424           | 0.424  |          |  |
|                           |              |            |               | 810    | 1909.8      | 27.3          | 27.3  | 0.976          | 0.976  | 0.449           | 0.449  |          |  |
| Hotspot                   |              |            | Front         | 661    | 1880.0      | 27.3          | 27.3  | 0.406          | 0.406  | 0.214           | 0.214  |          |  |
|                           |              |            | Edge 2        | 661    | 1880.0      | 27.3          | 27.3  | 0.443          | 0.443  | 0.245           | 0.245  |          |  |
|                           |              |            |               | Edge 3 | 512         | 1850.2        | 27.3  | 27.3           | 0.863  | 0.863           | 0.357  | 0.357    |  |
|                           |              |            |               |        | 661         | 1880.0        | 27.3  | 27.3           | 0.790  | 0.790           | 0.326  | 0.326    |  |
|                           |              |            | 810           |        | 1909.8      | 27.3          | 27.3  | 0.838          | 0.838  | 0.332           | 0.332  |          |  |
|                           |              |            | Edge 4        | 661    | 1880.0      | 27.3          | 27.3  | 0.099          | 0.099  | 0.053           | 0.053  |          |  |

### 10.3. W-CDMA Band V

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

#### UAT 1

| RF Exposure Conditions | Mode       | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |            |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | Rel 99 RMC | 0          | Left Touch    | 4132  | 826.4       | 24.3          | 24.3  | 0.799          | 0.799  | 0.478           | 0.478  | 6        |
|                        |            |            |               | 4183  | 836.6       | 24.3          | 24.3  | 0.825          | 0.825  | 0.490           | 0.490  |          |
|                        |            |            |               | 4233  | 846.6       | 24.3          | 24.3  | 0.809          | 0.809  | 0.479           | 0.479  |          |
|                        |            |            | Left Tilt     | 4183  | 836.6       | 24.3          | 24.3  | 0.785          | 0.785  | 0.400           | 0.400  |          |
|                        |            |            | Right Touch   | 4183  | 836.6       | 24.3          | 24.3  | 0.668          | 0.668  | 0.414           | 0.414  |          |
|                        |            |            | Right Tilt    | 4183  | 836.6       | 24.3          | 24.3  | 0.539          | 0.539  | 0.302           | 0.302  |          |
| Body-worn & Hotspot    | Rel 99 RMC | 5          | Rear          | 4183  | 836.6       | 24.3          | 24.3  | 0.667          | 0.667  | 0.367           | 0.367  | 7        |
|                        |            |            | Front         | 4183  | 836.6       | 24.3          | 24.3  | 0.471          | 0.471  | 0.264           | 0.264  |          |
| Hotspot                | Rel 99 RMC | 5          | Edge 1        | 4183  | 836.6       | 24.3          | 24.3  | 0.593          | 0.593  | 0.268           | 0.268  |          |
|                        |            |            | Edge 2        | 4183  | 836.6       | 24.3          | 24.3  | 0.644          | 0.644  | 0.423           | 0.423  |          |
|                        |            |            | Edge 4        | 4183  | 836.6       | 24.3          | 24.3  | 0.183          | 0.183  | 0.119           | 0.119  |          |

#### LAT 1

| RF Exposure Conditions | Mode       | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |            |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | Rel 99 RMC | 0          | Left Touch    | 4183  | 836.6       | 24.8          | 24.8  | 0.297          | 0.297  | 0.229           | 0.229  |          |
|                        |            |            | Left Tilt     | 4183  | 836.6       | 24.8          | 24.8  | 0.150          | 0.150  | 0.118           | 0.118  |          |
|                        |            |            | Right Touch   | 4183  | 836.6       | 24.8          | 24.8  | 0.242          | 0.242  | 0.187           | 0.187  |          |
|                        |            |            | Right Tilt    | 4183  | 836.6       | 24.8          | 24.8  | 0.152          | 0.152  | 0.122           | 0.122  |          |
| Body-worn & Hotspot    | Rel 99 RMC | 5          | Rear          | 4183  | 836.6       | 24.8          | 24.8  | 0.575          | 0.575  | 0.299           | 0.299  |          |
|                        |            |            | Front         | 4183  | 836.6       | 24.8          | 24.8  | 0.283          | 0.283  | 0.225           | 0.225  |          |
| Hotspot                | Rel 99 RMC | 5          | Edge 2        | 4183  | 836.6       | 24.8          | 24.8  | 0.299          | 0.299  | 0.196           | 0.196  |          |
|                        |            |            | Edge 3        | 4183  | 836.6       | 24.8          | 24.8  | 0.297          | 0.297  | 0.138           | 0.138  |          |
|                        |            |            | Edge 4        | 4183  | 836.6       | 24.8          | 24.8  | 0.543          | 0.543  | 0.359           | 0.359  |          |

## 10.4. W-CDMA Band IV

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions | Mode       | Dist. (mm) | Test Position | Ch #.      | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------|------------|---------------|------------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |            |            |               |            |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | Rel 99 RMC | 0          | Left Touch    | 1413       | 1732.6      | 21.8          | 21.8  | 0.444          | 0.444  | 0.263           | 0.263  | 8        |
|                        |            |            | Left Tilt     | 1413       | 1732.6      | 21.8          | 21.8  | 0.410          | 0.410  | 0.230           | 0.230  |          |
|                        |            |            | Right Touch   | 1312       | 1712.4      | 21.8          | 21.8  | 0.969          | 0.969  | 0.551           | 0.551  |          |
|                        |            |            |               | 1413       | 1732.6      | 21.8          | 21.8  | 1.010          | 1.010  | 0.565           | 0.565  |          |
|                        |            |            |               | 1513       | 1752.6      | 21.8          | 21.8  | 1.010          | 1.010  | 0.563           | 0.563  |          |
|                        |            |            | Right Tilt    | 1312       | 1712.4      | 21.8          | 21.8  | 0.817          | 0.817  | 0.402           | 0.402  |          |
|                        |            |            |               | 1413       | 1732.6      | 21.8          | 21.8  | 0.805          | 0.805  | 0.398           | 0.398  |          |
|                        |            |            |               | 1513       | 1752.6      | 21.8          | 21.8  | 0.847          | 0.847  | 0.411           | 0.411  |          |
| Body-worn & Hotspot    | Rel 99 RMC | 5          | Rear          | 1312       | 1712.4      | 22.3          | 22.3  | 0.746          | 0.746  | 0.387           | 0.387  |          |
|                        |            |            |               | 1413       | 1732.6      | 22.3          | 22.3  | 0.844          | 0.844  | 0.435           | 0.435  |          |
|                        |            |            |               | 1513       | 1752.6      | 22.3          | 22.3  | 0.818          | 0.818  | 0.421           | 0.421  |          |
|                        |            | Front      | 1413          | 1732.6     | 22.3        | 22.3          | 0.571 | 0.571          | 0.312  | 0.312           |        |          |
|                        |            |            | Hotspot       | Rel 99 RMC | 5           | Edge 1        | 1413  | 1732.6         | 22.3   | 22.3            | 0.781  | 0.781    |
| Edge 2                 | 1413       | 1732.6     |               |            |             | 22.3          | 22.3  | 0.038          | 0.038  | 0.023           | 0.023  |          |
| Edge 4                 | 1413       | 1732.6     |               |            |             | 22.3          | 22.3  | 0.383          | 0.383  | 0.223           | 0.223  |          |

### LAT 1

| RF Exposure Conditions | Mode       | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |            |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | Rel 99 RMC | 0          | Left Touch    | 1413  | 1732.6      | 25.3          | 25.3  | 0.427          | 0.427  | 0.278           | 0.278  |          |
|                        |            |            | Left Tilt     | 1413  | 1732.6      | 25.3          | 25.3  | 0.179          | 0.179  | 0.116           | 0.116  |          |
|                        |            |            | Right Touch   | 1413  | 1732.6      | 25.3          | 25.3  | 0.217          | 0.217  | 0.149           | 0.149  |          |
|                        |            |            | Right Tilt    | 1413  | 1732.6      | 25.3          | 25.3  | 0.200          | 0.200  | 0.127           | 0.127  |          |
| Body-worn & Hotspot    | Rel 99 RMC | 5          | Rear          | 1312  | 1712.4      | 24.5          | 24.4  | 0.797          | 0.816  | 0.462           | 0.473  | 9        |
|                        |            |            |               | 1413  | 1732.6      | 24.5          | 24.4  | 0.854          | 0.874  | 0.492           | 0.503  |          |
|                        |            |            |               | 1513  | 1752.6      | 24.5          | 24.4  | 0.883          | 0.904  | 0.511           | 0.523  |          |
|                        |            |            | Front         | 1413  | 1732.6      | 24.5          | 24.4  | 0.516          | 0.528  | 0.354           | 0.362  |          |
| Hotspot                | Rel 99 RMC | 5          | Edge 2        | 1413  | 1732.6      | 24.5          | 24.4  | 0.131          | 0.134  | 0.075           | 0.076  |          |
|                        |            |            | Edge 3        | 1413  | 1732.6      | 24.5          | 24.4  | 0.470          | 0.481  | 0.217           | 0.222  |          |
|                        |            |            | Edge 4        | 1413  | 1732.6      | 24.5          | 24.4  | 0.707          | 0.723  | 0.406           | 0.415  |          |

## 10.5. W-CDMA Band II

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions | Mode       | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |            |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | Rel 99 RMC | 0          | Left Touch    | 9400  | 1880.0      | 19.5          | 19.5  | 0.279          | 0.279  | 0.158           | 0.158  | 10       |
|                        |            |            | Left Tilt     | 9400  | 1880.0      | 19.5          | 19.5  | 0.266          | 0.266  | 0.134           | 0.134  |          |
|                        |            |            | Right Touch   | 9400  | 1880.0      | 19.5          | 19.5  | 0.656          | 0.656  | 0.348           | 0.348  |          |
|                        |            |            | Right Tilt    | 9400  | 1880.0      | 19.5          | 19.5  | 0.636          | 0.636  | 0.292           | 0.292  |          |
| Body-worn & Hotspot    | Rel 99 RMC | 5          | Rear          | 9400  | 1880.0      | 21.3          | 21.2  | 0.295          | 0.302  | 0.145           | 0.148  |          |
|                        |            |            | Front         | 9400  | 1880.0      | 21.3          | 21.2  | 0.239          | 0.245  | 0.119           | 0.122  |          |
| Hotspot                | Rel 99 RMC | 5          | Edge 1        | 9400  | 1880.0      | 21.3          | 21.2  | 0.309          | 0.316  | 0.128           | 0.131  |          |
|                        |            |            | Edge 2        | 9400  | 1880.0      | 21.3          | 21.2  | 0.023          | 0.024  | 0.011           | 0.011  |          |
|                        |            |            | Edge 4        | 9400  | 1880.0      | 21.3          | 21.2  | 0.258          | 0.264  | 0.134           | 0.137  |          |

### LAT 1

| RF Exposure Conditions | Mode       | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |            |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | Rel 99 RMC | 0          | Left Touch    | 9400  | 1880.0      | 25.3          | 25.3  | 0.575          | 0.575  | 0.350           | 0.350  |          |
|                        |            |            | Left Tilt     | 9400  | 1880.0      | 25.3          | 25.3  | 0.217          | 0.217  | 0.123           | 0.123  |          |
|                        |            |            | Right Touch   | 9400  | 1880.0      | 25.3          | 25.3  | 0.422          | 0.422  | 0.260           | 0.260  |          |
|                        |            |            | Right Tilt    | 9400  | 1880.0      | 25.3          | 25.3  | 0.261          | 0.261  | 0.151           | 0.151  |          |
| Body-worn & Hotspot    | Rel 99 RMC | 5          | Rear          | 9262  | 1852.4      | 23.3          | 23.3  | 0.997          | 0.997  | 0.545           | 0.545  | 11       |
|                        |            |            |               | 9400  | 1880.0      | 23.3          | 23.3  | 0.977          | 0.977  | 0.491           | 0.491  |          |
|                        |            |            |               | 9538  | 1907.6      | 23.3          | 23.2  | 1.010          | 1.034  | 0.493           | 0.504  |          |
|                        |            |            | Front         | 9400  | 1880.0      | 23.3          | 23.3  | 0.426          | 0.426  | 0.256           | 0.256  |          |
| Hotspot                | Rel 99 RMC | 5          | Edge 2        | 9400  | 1880.0      | 23.3          | 23.3  | 0.171          | 0.171  | 0.092           | 0.092  |          |
|                        |            |            | Edge 3        | 9262  | 1852.4      | 23.3          | 23.3  | 0.660          | 0.660  | 0.331           | 0.331  |          |
|                        |            |            |               | 9400  | 1880.0      | 23.3          | 23.3  | 0.875          | 0.875  | 0.418           | 0.418  |          |
|                        |            |            |               | 9538  | 1907.6      | 23.3          | 23.3  | 0.994          | 0.994  | 0.457           | 0.457  |          |
|                        |            |            | Edge 4        | 9400  | 1880.0      | 23.3          | 23.3  | 0.551          | 0.551  | 0.299           | 0.299  |          |

## 10.6. CDMA BC0

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions | Mode             | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |                  |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | 1xRTT (RC3 SO55) | 0          | Left Touch    | 384   | 836.5       | 23.3          | 23.3  | 0.605          | 0.605  | 0.361           | 0.361  | 12       |
|                        |                  |            | Left Tilt     | 384   | 836.5       | 23.3          | 23.3  | 0.607          | 0.607  | 0.306           | 0.306  |          |
|                        |                  |            | Right Touch   | 384   | 836.5       | 23.3          | 23.3  | 0.293          | 0.293  | 0.225           | 0.225  |          |
|                        |                  |            | Right Tilt    | 384   | 836.5       | 23.3          | 23.3  | 0.158          | 0.158  | 0.125           | 0.125  |          |
| Head                   | 1xEVDO (Rel. 0)  | 0          | Left Touch    | 384   | 836.5       | 23.3          | 23.3  | 0.567          | 0.567  | 0.356           | 0.356  |          |
|                        |                  |            | Left Tilt     | 384   | 836.5       | 23.3          | 23.3  | 0.559          | 0.559  | 0.289           | 0.289  |          |
|                        |                  |            | Right Touch   | 384   | 836.5       | 23.3          | 23.3  | 0.523          | 0.523  | 0.325           | 0.325  |          |
|                        |                  |            | Right Tilt    | 384   | 836.5       | 23.3          | 23.3  | 0.415          | 0.415  | 0.230           | 0.230  |          |
| Body-worn & Hotspot    | 1xRTT (RC3 SO32) | 5          | Rear          | 384   | 836.5       | 23.3          | 23.3  | 0.652          | 0.652  | 0.346           | 0.346  | 13       |
|                        |                  |            | Front         | 384   | 836.5       | 23.3          | 23.3  | 0.446          | 0.446  | 0.241           | 0.241  |          |
| Hotspot                | 1xRTT (RC3 SO32) | 5          | Edge 1        | 384   | 836.5       | 23.3          | 23.3  | 0.448          | 0.448  | 0.202           | 0.202  |          |
|                        |                  |            | Edge 2        | 384   | 836.5       | 23.3          | 23.3  | 0.591          | 0.591  | 0.387           | 0.387  |          |
|                        |                  |            | Edge 4        | 384   | 836.5       | 23.3          | 23.3  | 0.180          | 0.180  | 0.117           | 0.117  |          |

### LAT 1

| RF Exposure Conditions | Mode             | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |                  |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | 1xRTT (RC3 SO55) | 0          | Left Touch    | 384   | 836.5       | 24.8          | 24.8  | 0.329          | 0.329  | 0.252           | 0.252  |          |
|                        |                  |            | Left Tilt     | 384   | 836.5       | 24.8          | 24.8  | 0.156          | 0.156  | 0.123           | 0.123  |          |
|                        |                  |            | Right Touch   | 384   | 836.5       | 24.8          | 24.8  | 0.293          | 0.293  | 0.225           | 0.225  |          |
|                        |                  |            | Right Tilt    | 384   | 836.5       | 24.8          | 24.8  | 0.158          | 0.158  | 0.125           | 0.125  |          |
| Head                   | 1xEVDO (Rel. 0)  | 0          | Left Touch    | 384   | 836.5       | 24.8          | 24.8  | 0.341          | 0.341  | 0.262           | 0.262  |          |
|                        |                  |            | Left Tilt     | 384   | 836.5       | 24.8          | 24.8  | 0.175          | 0.175  | 0.136           | 0.136  |          |
|                        |                  |            | Right Touch   | 384   | 836.5       | 24.8          | 24.8  | 0.307          | 0.307  | 0.234           | 0.234  |          |
|                        |                  |            | Right Tilt    | 384   | 836.5       | 24.8          | 24.8  | 0.216          | 0.216  | 0.168           | 0.168  |          |
| Body-worn & Hotspot    | 1xRTT (RC3 SO32) | 5          | Rear          | 384   | 836.5       | 24.8          | 24.8  | 0.564          | 0.564  | 0.304           | 0.304  |          |
|                        |                  |            | Front         | 384   | 836.5       | 24.8          | 24.8  | 0.368          | 0.368  | 0.200           | 0.200  |          |
| Hotspot                | 1xRTT (RC3 SO32) | 5          | Edge 2        | 384   | 836.5       | 24.8          | 24.8  | 0.300          | 0.300  | 0.195           | 0.195  |          |
|                        |                  |            | Edge 3        | 384   | 836.5       | 24.8          | 24.8  | 0.339          | 0.339  | 0.154           | 0.154  |          |
|                        |                  |            | Edge 4        | 384   | 836.5       | 24.8          | 24.8  | 0.614          | 0.614  | 0.403           | 0.403  |          |

## 10.7. CDMA BC1

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions | Mode             | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |                  |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | 1xRTT (RC3 SO55) | 0          | Left Touch    | 600   | 1880.0      | 19.5          | 19.4  | 0.392          | 0.401  | 0.221           | 0.226  | 14       |
|                        |                  |            | Left Tilt     | 600   | 1880.0      | 19.5          | 19.4  | 0.367          | 0.376  | 0.190           | 0.194  |          |
|                        |                  |            | Right Touch   | 25    | 1851.3      | 19.5          | 19.3  | 0.906          | 0.949  | 0.497           | 0.520  |          |
|                        |                  |            |               | 600   | 1880.0      | 19.5          | 19.4  | 1.050          | 1.074  | 0.564           | 0.577  |          |
|                        |                  |            |               | 1175  | 1908.8      | 19.5          | 19.5  | 1.070          | 1.070  | 0.568           | 0.568  |          |
|                        |                  |            | Right Tilt    | 25    | 1851.3      | 19.5          | 19.3  | 0.871          | 0.912  | 0.419           | 0.439  |          |
|                        |                  |            |               | 600   | 1880.0      | 19.5          | 19.4  | 0.955          | 0.977  | 0.454           | 0.465  |          |
|                        |                  |            |               | 1175  | 1908.8      | 19.5          | 19.5  | 1.050          | 1.050  | 0.495           | 0.495  |          |
| Head                   | 1xEVDO (Rel. 0)  | 0          | Left Touch    | 600   | 1880.0      | 19.5          | 19.4  | 0.207          | 0.212  | 0.117           | 0.120  |          |
|                        |                  |            | Left Tilt     | 600   | 1880.0      | 19.5          | 19.4  | 0.197          | 0.202  | 0.101           | 0.103  |          |
|                        |                  |            | Right Touch   | 600   | 1880.0      | 19.5          | 19.4  | 0.501          | 0.513  | 0.268           | 0.274  |          |
|                        |                  |            | Right Tilt    | 600   | 1880.0      | 19.5          | 19.4  | 0.484          | 0.495  | 0.224           | 0.229  |          |
| Body-worn & Hotspot    | 1xRTT (RC3 SO32) | 5          | Rear          | 25    | 1851.3      | 21.3          | 21.1  | 0.762          | 0.798  | 0.371           | 0.388  |          |
|                        |                  |            |               | 600   | 1880.0      | 21.3          | 21.2  | 0.846          | 0.866  | 0.407           | 0.416  |          |
|                        |                  |            |               | 1175  | 1908.8      | 21.3          | 21.2  | 0.822          | 0.841  | 0.395           | 0.404  |          |
|                        |                  |            | Front         | 600   | 1880.0      | 21.3          | 21.2  | 0.517          | 0.529  | 0.269           | 0.275  |          |
| Hotspot                | 1xRTT (RC3 SO32) | 5          | Edge 1        | 25    | 1851.3      | 21.3          | 21.1  | 0.725          | 0.759  | 0.317           | 0.332  |          |
|                        |                  |            |               | 600   | 1880.0      | 21.3          | 21.2  | 0.790          | 0.808  | 0.335           | 0.343  |          |
|                        |                  |            |               | 1175  | 1908.8      | 21.3          | 21.2  | 0.763          | 0.781  | 0.324           | 0.332  |          |
|                        |                  |            | Edge 2        | 600   | 1880.0      | 21.3          | 21.2  | 0.064          | 0.065  | 0.034           | 0.035  |          |
|                        |                  |            | Edge 4        | 600   | 1880.0      | 21.3          | 21.2  | 0.604          | 0.618  | 0.313           | 0.320  |          |

### LAT 1

| RF Exposure Conditions | Mode             | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |                  |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | 1xRTT (RC3 SO55) | 0          | Left Touch    | 600   | 1880.0      | 25.3          | 25.2  | 0.636          | 0.651  | 0.379           | 0.388  |          |
|                        |                  |            | Left Tilt     | 600   | 1880.0      | 25.3          | 25.2  | 0.202          | 0.207  | 0.115           | 0.118  |          |
|                        |                  |            | Right Touch   | 600   | 1880.0      | 25.3          | 25.2  | 0.372          | 0.381  | 0.228           | 0.233  |          |
|                        |                  |            | Right Tilt    | 600   | 1880.0      | 25.3          | 25.2  | 0.239          | 0.245  | 0.139           | 0.142  |          |
| Head                   | 1xEVDO (Rel. 0)  | 0          | Left Touch    | 600   | 1880.0      | 25.3          | 25.2  | 0.562          | 0.575  | 0.349           | 0.357  |          |
|                        |                  |            | Left Tilt     | 600   | 1880.0      | 25.3          | 25.2  | 0.216          | 0.221  | 0.129           | 0.132  |          |
|                        |                  |            | Right Touch   | 600   | 1880.0      | 25.3          | 25.2  | 0.366          | 0.375  | 0.231           | 0.236  |          |
|                        |                  |            | Right Tilt    | 600   | 1880.0      | 25.3          | 25.2  | 0.269          | 0.275  | 0.156           | 0.160  |          |
| Body-worn & Hotspot    | 1xRTT (RC3 SO32) | 5          | Rear          | 25    | 1851.3      | 23.3          | 23.2  | 0.990          | 1.013  | 0.528           | 0.540  |          |
|                        |                  |            |               | 600   | 1880.0      | 23.3          | 23.3  | 1.000          | 1.000  | 0.506           | 0.506  |          |
|                        |                  |            |               | 1175  | 1908.8      | 23.3          | 23.3  | 1.090          | 1.090  | 0.531           | 0.531  |          |
|                        |                  |            | Front         | 600   | 1880.0      | 23.3          | 23.3  | 0.496          | 0.496  | 0.293           | 0.293  |          |
| Hotspot                | 1xRTT (RC3 SO32) | 5          | Edge 2        | 600   | 1880.0      | 23.3          | 23.3  | 0.207          | 0.207  | 0.110           | 0.110  |          |
|                        |                  |            | Edge 3        | 25    | 1851.3      | 23.3          | 23.2  | 0.853          | 0.873  | 0.425           | 0.435  |          |
|                        |                  |            |               | 600   | 1880.0      | 23.3          | 23.3  | 1.040          | 1.040  | 0.499           | 0.499  |          |
|                        |                  |            |               | 1175  | 1908.8      | 23.3          | 23.3  | 1.060          | 1.060  | 0.494           | 0.494  |          |
|                        |                  |            | Edge 4        | 600   | 1880.0      | 23.3          | 23.3  | 0.544          | 0.544  | 0.294           | 0.294  |          |

## 10.8. CDMA BC10

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions | Mode             | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |                  |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | 1xRTT (RC3 SO55) | 0          | Left Touch    | 560   | 820.0       | 23.3          | 23.2  | 0.618          | 0.632  | 0.369           | 0.378  | 16       |
|                        |                  |            | Left Tilt     | 560   | 820.0       | 23.3          | 23.2  | 0.558          | 0.571  | 0.278           | 0.284  |          |
|                        |                  |            | Right Touch   | 560   | 820.0       | 23.3          | 23.2  | 0.458          | 0.469  | 0.300           | 0.307  |          |
|                        |                  |            | Right Tilt    | 560   | 820.0       | 23.3          | 23.2  | 0.403          | 0.412  | 0.226           | 0.231  |          |
| Head                   | 1xEVDO (Rel. 0)  | 0          | Left Touch    | 560   | 820.0       | 23.3          | 23.2  | 0.587          | 0.601  | 0.362           | 0.370  |          |
|                        |                  |            | Left Tilt     | 560   | 820.0       | 23.3          | 23.2  | 0.572          | 0.585  | 0.287           | 0.294  |          |
|                        |                  |            | Right Touch   | 560   | 820.0       | 23.3          | 23.2  | 0.479          | 0.490  | 0.304           | 0.311  |          |
|                        |                  |            | Right Tilt    | 560   | 820.0       | 23.3          | 23.2  | 0.371          | 0.380  | 0.207           | 0.212  |          |
| Body-worn & Hotspot    | 1xRTT (RC3 SO32) | 5          | Rear          | 560   | 820.0       | 23.3          | 23.2  | 0.544          | 0.557  | 0.288           | 0.295  |          |
|                        |                  |            | Front         | 560   | 820.0       | 23.3          | 23.2  | 0.367          | 0.376  | 0.200           | 0.205  |          |
| Hotspot                | 1xRTT (RC3 SO32) | 5          | Edge 1        | 560   | 820.0       | 23.3          | 23.2  | 0.360          | 0.368  | 0.162           | 0.166  | 17       |
|                        |                  |            | Edge 2        | 560   | 820.0       | 23.3          | 23.2  | 0.597          | 0.611  | 0.393           | 0.402  |          |
|                        |                  |            | Edge 4        | 560   | 820.0       | 23.3          | 23.2  | 0.201          | 0.206  | 0.131           | 0.134  |          |

### LAT 1

| RF Exposure Conditions | Mode             | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |                  |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | 1xRTT (RC3 SO55) | 0          | Left Touch    | 560   | 820.0       | 24.8          | 24.8  | 0.276          | 0.276  | 0.212           | 0.212  |          |
|                        |                  |            | Left Tilt     | 560   | 820.0       | 24.8          | 24.8  | 0.125          | 0.125  | 0.099           | 0.099  |          |
|                        |                  |            | Right Touch   | 560   | 820.0       | 24.8          | 24.8  | 0.249          | 0.249  | 0.193           | 0.193  |          |
|                        |                  |            | Right Tilt    | 560   | 820.0       | 24.8          | 24.8  | 0.124          | 0.124  | 0.098           | 0.098  |          |
| Head                   | 1xEVDO (Rel. 0)  | 0          | Left Touch    | 560   | 820.0       | 24.8          | 24.8  | 0.312          | 0.312  | 0.239           | 0.239  |          |
|                        |                  |            | Left Tilt     | 560   | 820.0       | 24.8          | 24.8  | 0.196          | 0.196  | 0.154           | 0.154  |          |
|                        |                  |            | Right Touch   | 560   | 820.0       | 24.8          | 24.8  | 0.265          | 0.265  | 0.203           | 0.203  |          |
|                        |                  |            | Right Tilt    | 560   | 820.0       | 24.8          | 24.8  | 0.183          | 0.183  | 0.144           | 0.144  |          |
| Body-worn & Hotspot    | 1xRTT (RC3 SO32) | 5          | Rear          | 560   | 820.0       | 24.8          | 24.8  | 0.579          | 0.579  | 0.357           | 0.357  | 18       |
|                        |                  |            | Front         | 560   | 820.0       | 24.8          | 24.8  | 0.276          | 0.276  | 0.158           | 0.158  |          |
| Hotspot                | 1xRTT (RC3 SO32) | 5          | Edge 2        | 560   | 820.0       | 24.8          | 24.8  | 0.227          | 0.227  | 0.148           | 0.148  |          |
|                        |                  |            | Edge 3        | 560   | 820.0       | 24.8          | 24.8  | 0.308          | 0.308  | 0.135           | 0.135  |          |
|                        |                  |            | Edge 4        | 560   | 820.0       | 24.8          | 24.8  | 0.577          | 0.577  | 0.380           | 0.380  |          |

**10.9. LTE Band 2 (20MHz Bandwidth)**

SAR for LTE Band 2 (Frequency range: 1850 - 1910 MHz) is covered by LTE Band 25 (Frequency range: 1850 - 1915 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

**10.10. LTE Band 4 (20MHz Bandwidth)**

SAR for LTE Band 4 (Frequency range: 1710 - 1755 MHz) is covered by LTE Band 66 (Frequency range: 1710 - 1780 MHz) due to overlapping frequency range, same maximum tune-up limit and similar channel bandwidth.

**10.11. LTE Band 5 (10MHz Bandwidth)**

SAR for LTE Band 5 (Frequency range: 824 - 849 MHz) is covered by LTE Band 26 (Frequency range: 814 – 849 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel

## 10.12. LTE Band 7 (20MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions | Mode   | Dist. (mm) | Test Position       | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|--------|------------|---------------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |        |            |                     |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK   | 0          | Left Touch          | 20850 | 2510.0      | 1             | 49        | 20.3          | 20.3  | 1.090          | 1.090  | 0.425           | 0.425  | 19       |
|                        |        |            |                     |       |             | 50            | 24        | 20.3          | 20.3  | 0.914          | 0.914  | 0.360           | 0.360  |          |
|                        |        |            |                     | 21100 | 2535.0      | 1             | 49        | 20.3          | 20.3  | 0.996          | 0.996  | 0.381           | 0.381  |          |
|                        |        |            |                     |       |             | 50            | 24        | 20.3          | 20.3  | 0.827          | 0.827  | 0.322           | 0.322  |          |
|                        |        |            |                     |       |             | 100           | 0         | 20.3          | 20.3  | 1.020          | 1.020  | 0.390           | 0.390  |          |
|                        |        |            |                     |       |             | 21350         | 2560.0    | 1             | 49    | 20.3           | 20.3   | 0.982           | 0.982  |          |
|                        |        |            | 50                  | 24    | 20.3        | 20.3          |           | 0.832         | 0.832 | 0.318          | 0.318  |                 |        |          |
|                        |        |            | Left Tilt           | 21100 | 2535.0      | 1             | 49        | 20.3          | 20.3  | 0.643          | 0.643  | 0.256           | 0.256  |          |
|                        |        |            |                     |       |             | 50            | 24        | 20.3          | 20.3  | 0.647          | 0.647  | 0.260           | 0.260  |          |
|                        |        |            | Right Touch         | 21100 | 2535.0      | 1             | 49        | 20.3          | 20.3  | 0.286          | 0.286  | 0.148           | 0.148  |          |
|                        |        |            |                     |       |             | 50            | 24        | 20.3          | 20.3  | 0.273          | 0.273  | 0.140           | 0.140  |          |
|                        |        |            | Right Tilt          | 21100 | 2535.0      | 1             | 49        | 20.3          | 20.3  | 0.226          | 0.226  | 0.111           | 0.111  |          |
|                        |        |            |                     |       |             | 50            | 24        | 20.3          | 20.3  | 0.248          | 0.248  | 0.123           | 0.123  |          |
|                        |        |            | Body-worn & Hotspot | QPSK  | 5           | Rear          | 20850     | 2510.0        | 1     | 49             | 20.8   | 20.8            | 0.884  |          |
| 50                     | 49     | 20.8       |                     |       |             |               |           |               | 20.8  | 0.889          | 0.889  | 0.379           | 0.379  |          |
| 21100                  | 2535.0 | 1          |                     |       |             |               | 49        | 20.8          | 20.8  | 0.864          | 0.864  | 0.364           | 0.364  |          |
|                        |        | 50         |                     |       |             |               | 24        | 20.8          | 20.8  | 0.831          | 0.831  | 0.351           | 0.351  |          |
|                        |        | 100        |                     |       |             |               | 0         | 20.8          | 20.8  | 0.841          | 0.841  | 0.362           | 0.362  |          |
| 21350                  | 2560.0 | 1          |                     |       |             |               | 49        | 20.8          | 20.8  | 0.821          | 0.821  | 0.346           | 0.346  |          |
|                        |        | 50         |                     |       |             | 24            | 20.8      | 20.8          | 0.863 | 0.863          | 0.363  | 0.363           |        |          |
| Front                  | 21100  | 2535.0     |                     |       |             | 1             | 49        | 20.8          | 20.8  | 0.619          | 0.619  | 0.273           | 0.273  |          |
|                        |        |            |                     |       |             | 50            | 24        | 20.8          | 20.8  | 0.428          | 0.428  | 0.194           | 0.194  |          |
| Hotspot                | QPSK   | 5          |                     |       |             | Edge 1        | 21100     | 2535.0        | 1     | 49             | 20.8   | 20.8            | 0.451  | 0.451    |
|                        |        |            | 50                  | 24    | 20.8        |               |           |               | 20.8  | 0.376          | 0.376  | 0.139           | 0.139  |          |
|                        |        |            | Edge 2              | 20850 | 2510.0      | 1             | 49        | 20.8          | 20.8  | 0.865          | 0.865  | 0.349           | 0.349  |          |
|                        |        |            |                     |       |             | 50            | 24        | 20.8          | 20.8  | 0.882          | 0.882  | 0.349           | 0.349  |          |
|                        |        |            |                     | 21100 | 2535.0      | 1             | 49        | 20.8          | 20.8  | 0.866          | 0.866  | 0.335           | 0.335  |          |
|                        |        |            |                     |       |             | 50            | 24        | 20.8          | 20.8  | 0.797          | 0.797  | 0.309           | 0.309  |          |
|                        |        |            |                     |       |             | 100           | 0         | 20.8          | 20.8  | 0.812          | 0.812  | 0.315           | 0.315  |          |
|                        |        |            |                     | 21350 | 2560.0      | 1             | 49        | 20.8          | 20.8  | 0.726          | 0.726  | 0.284           | 0.284  |          |
|                        |        |            | 50                  |       |             | 24            | 20.8      | 20.8          | 0.719 | 0.719          | 0.278  | 0.278           |        |          |
|                        |        |            | Edge 4              | 21100 | 2535.0      | 1             | 49        | 20.8          | 20.8  | 0.076          | 0.076  | 0.035           | 0.035  |          |
| 50                     | 24     | 20.8       |                     |       |             | 20.8          | 0.085     | 0.085         | 0.038 | 0.038          |        |                 |        |          |

## LAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 21100 | 2535.0      | 1             | 49        | 25.3          | 25.3  | 0.569          | 0.569  | 0.296           | 0.296  |          |
|                        |      |            |               |       |             | 50            | 24        | 24.3          | 24.3  | 0.512          | 0.512  | 0.264           | 0.264  |          |
|                        |      |            | Left Tilt     | 21100 | 2535.0      | 1             | 49        | 25.3          | 25.3  | 0.172          | 0.172  | 0.088           | 0.088  |          |
|                        |      |            |               |       |             | 50            | 24        | 24.3          | 24.3  | 0.186          | 0.186  | 0.095           | 0.095  |          |
|                        |      |            | Right Touch   | 21100 | 2535.0      | 1             | 49        | 25.3          | 25.3  | 0.280          | 0.280  | 0.155           | 0.155  |          |
|                        |      |            |               |       |             | 50            | 24        | 24.3          | 24.3  | 0.240          | 0.240  | 0.133           | 0.133  |          |
|                        |      |            | Right Tilt    | 21100 | 2535.0      | 1             | 49        | 25.3          | 25.3  | 0.238          | 0.238  | 0.123           | 0.123  |          |
|                        |      |            |               |       |             | 50            | 24        | 24.3          | 24.3  | 0.208          | 0.208  | 0.107           | 0.107  |          |
|                        |      |            | Rear          | 20850 | 2510.0      | 1             | 49        | 22.0          | 22.0  | 0.792          | 0.792  | 0.322           | 0.322  |          |
|                        |      |            |               |       |             | 50            | 24        | 22.0          | 22.0  | 0.906          | 0.906  | 0.368           | 0.368  |          |
|                        |      |            |               | 21100 | 2535.0      | 1             | 49        | 22.0          | 22.0  | 0.934          | 0.934  | 0.379           | 0.379  |          |
|                        |      |            |               |       |             | 50            | 24        | 22.0          | 22.0  | 1.030          | 1.030  | 0.414           | 0.414  |          |
|                        |      |            |               | 21350 | 2560.0      | 100           | 0         | 22.0          | 22.0  | 0.984          | 0.984  | 0.399           | 0.399  |          |
|                        |      |            |               |       |             | 1             | 49        | 22.0          | 22.0  | 1.020          | 1.020  | 0.411           | 0.411  |          |
|                        |      |            |               | Front | 20850       | 2510.0        | 50        | 24            | 22.0  | 1.040          | 1.040  | 0.418           | 0.418  | 20       |
|                        |      |            |               |       |             | 1             | 49        | 22.0          | 22.0  | 0.781          | 0.781  | 0.317           | 0.317  |          |
|                        |      |            |               |       | 21100       | 2535.0        | 50        | 24            | 22.0  | 0.778          | 0.778  | 0.320           | 0.320  |          |
|                        |      |            |               |       |             | 1             | 49        | 22.0          | 22.0  | 0.820          | 0.820  | 0.328           | 0.328  |          |
|                        |      |            |               |       | 21350       | 2560.0        | 50        | 24            | 22.0  | 0.850          | 0.850  | 0.344           | 0.344  |          |
|                        |      |            |               |       |             | 100           | 0         | 22.0          | 22.0  | 0.844          | 0.844  | 0.343           | 0.343  |          |
|                        |      |            |               |       | 21350       | 2560.0        | 1         | 49            | 22.0  | 0.840          | 0.840  | 0.334           | 0.334  |          |
|                        |      |            |               |       |             | 50            | 24        | 22.0          | 22.0  | 0.892          | 0.892  | 0.358           | 0.358  |          |
| Hotspot                | QPSK | 5          | Edge 2        | 21100 | 2535.0      | 1             | 49        | 22.0          | 22.0  | 0.262          | 0.262  | 0.122           | 0.122  |          |
|                        |      |            |               |       |             | 50            | 24        | 22.0          | 22.0  | 0.244          | 0.244  | 0.115           | 0.115  |          |
|                        |      |            | Edge 3        | 20850 | 2510.0      | 1             | 49        | 22.0          | 22.0  | 0.892          | 0.892  | 0.293           | 0.293  |          |
|                        |      |            |               |       |             | 50            | 24        | 22.0          | 22.0  | 0.808          | 0.808  | 0.267           | 0.267  |          |
|                        |      |            |               | 21100 | 2535.0      | 1             | 49        | 22.0          | 22.0  | 0.910          | 0.910  | 0.301           | 0.301  |          |
|                        |      |            |               |       |             | 50            | 24        | 22.0          | 22.0  | 0.907          | 0.907  | 0.299           | 0.299  |          |
|                        |      |            |               | 21350 | 2560.0      | 100           | 0         | 22.0          | 22.0  | 0.908          | 0.908  | 0.300           | 0.300  |          |
|                        |      |            |               |       |             | 1             | 49        | 22.0          | 22.0  | 1.010          | 1.010  | 0.337           | 0.337  |          |
|                        |      |            |               |       | 21350       | 2560.0        | 50        | 24            | 22.0  | 0.976          | 0.976  | 0.325           | 0.325  |          |
|                        |      |            |               |       |             | 1             | 49        | 22.0          | 22.0  | 0.687          | 0.687  | 0.303           | 0.303  |          |
|                        |      |            | Edge 4        | 21100 | 2535.0      | 50            | 24        | 22.0          | 22.0  | 0.640          | 0.640  | 0.281           | 0.281  |          |

### 10.13. LTE Band 12 (10MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

#### UAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 23095 | 707.5       | 1             | 24        | 24.0          | 24.0  | 0.384          | 0.384  | 0.290           | 0.290  | 21       |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.310          | 0.310  | 0.233           | 0.233  |          |
|                        |      |            | Left Tilt     | 23095 | 707.5       | 1             | 24        | 24.0          | 24.0  | 0.368          | 0.368  | 0.203           | 0.203  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.298          | 0.298  | 0.166           | 0.166  |          |
|                        |      |            | Right Touch   | 23095 | 707.5       | 1             | 24        | 24.0          | 24.0  | 0.370          | 0.370  | 0.233           | 0.233  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.304          | 0.304  | 0.192           | 0.192  |          |
|                        |      |            | Right Tilt    | 23095 | 707.5       | 1             | 24        | 24.0          | 24.0  | 0.352          | 0.352  | 0.203           | 0.203  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.288          | 0.288  | 0.166           | 0.166  |          |
| Body-worn & Hotspot    | QPSK | 5          | Rear          | 23095 | 707.5       | 1             | 24        | 24.0          | 24.0  | 0.218          | 0.218  | 0.135           | 0.135  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.178          | 0.178  | 0.111           | 0.111  |          |
|                        |      |            | Front         | 23095 | 707.5       | 1             | 24        | 24.0          | 24.0  | 0.168          | 0.168  | 0.103           | 0.103  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.142          | 0.142  | 0.086           | 0.086  |          |
| Hotspot                | QPSK | 5          | Edge 1        | 23095 | 707.5       | 1             | 24        | 24.0          | 24.0  | 0.237          | 0.237  | 0.118           | 0.118  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.199          | 0.199  | 0.098           | 0.098  |          |
|                        |      |            | Edge 2        | 23095 | 707.5       | 1             | 24        | 24.0          | 24.0  | 0.357          | 0.357  | 0.243           | 0.243  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.289          | 0.289  | 0.197           | 0.197  |          |
|                        |      |            | Edge 4        | 23095 | 707.5       | 1             | 24        | 24.0          | 24.0  | 0.131          | 0.131  | 0.090           | 0.090  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.107          | 0.107  | 0.073           | 0.073  |          |
|                        |      |            |               |       |             |               |           |               |       |                |        |                 |        |          |
|                        |      |            |               |       |             |               |           |               |       |                |        |                 |        |          |

#### LAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 23095 | 707.5       | 1             | 24        | 24.8          | 24.8  | 0.216          | 0.216  | 0.171           | 0.171  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.167          | 0.167  | 0.132           | 0.132  |          |
|                        |      |            | Left Tilt     | 23095 | 707.5       | 1             | 24        | 24.8          | 24.8  | 0.138          | 0.138  | 0.111           | 0.111  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.115          | 0.115  | 0.092           | 0.092  |          |
|                        |      |            | Right Touch   | 23095 | 707.5       | 1             | 24        | 24.8          | 24.8  | 0.206          | 0.206  | 0.164           | 0.164  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.161          | 0.161  | 0.127           | 0.127  |          |
|                        |      |            | Right Tilt    | 23095 | 707.5       | 1             | 24        | 24.8          | 24.8  | 0.167          | 0.167  | 0.133           | 0.133  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.122          | 0.122  | 0.098           | 0.098  |          |
| Body-worn & Hotspot    | QPSK | 5          | Rear          | 23095 | 707.5       | 1             | 24        | 24.8          | 24.8  | 0.458          | 0.458  | 0.280           | 0.280  | 22       |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.368          | 0.368  | 0.224           | 0.224  |          |
|                        |      |            | Front         | 23095 | 707.5       | 1             | 24        | 24.8          | 24.8  | 0.271          | 0.271  | 0.213           | 0.213  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.218          | 0.218  | 0.171           | 0.171  |          |
| Hotspot                | QPSK | 5          | Edge 2        | 23095 | 707.5       | 1             | 24        | 24.8          | 24.8  | 0.405          | 0.405  | 0.277           | 0.277  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.326          | 0.326  | 0.222           | 0.222  |          |
|                        |      |            | Edge 3        | 23095 | 707.5       | 1             | 24        | 24.8          | 24.8  | 0.298          | 0.298  | 0.143           | 0.143  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.238          | 0.238  | 0.114           | 0.114  |          |
|                        |      |            | Edge 4        | 23095 | 707.5       | 1             | 24        | 24.8          | 24.8  | 0.653          | 0.653  | 0.449           | 0.449  | 23       |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.531          | 0.531  | 0.364           | 0.364  |          |
|                        |      |            |               |       |             |               |           |               |       |                |        |                 |        |          |
|                        |      |            |               |       |             |               |           |               |       |                |        |                 |        |          |

### 10.14. LTE Band 13 (10MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

#### UAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 23230 | 782.0       | 1             | 24        | 24.0          | 24.0  | 0.470          | 0.470  | 0.312           | 0.312  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.383          | 0.383  | 0.254           | 0.254  |          |
|                        |      |            | Left Tilt     | 23230 | 782.0       | 1             | 24        | 24.0          | 24.0  | 0.529          | 0.529  | 0.286           | 0.286  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.425          | 0.425  | 0.230           | 0.230  |          |
|                        |      |            | Right Touch   | 23230 | 782.0       | 1             | 24        | 24.0          | 24.0  | 0.533          | 0.533  | 0.343           | 0.343  | 24       |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.431          | 0.431  | 0.276           | 0.276  |          |
| Body-worn & Hotspot    | QPSK | 5          | Rear          | 23230 | 782.0       | 1             | 24        | 24.0          | 24.0  | 0.457          | 0.457  | 0.273           | 0.273  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.367          | 0.367  | 0.219           | 0.219  |          |
|                        |      |            | Front         | 23230 | 782.0       | 1             | 24        | 24.0          | 24.0  | 0.268          | 0.268  | 0.167           | 0.167  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.217          | 0.217  | 0.134           | 0.134  |          |
| Hotspot                | QPSK | 5          | Edge 1        | 23230 | 782.0       | 1             | 24        | 24.0          | 24.0  | 0.355          | 0.355  | 0.167           | 0.167  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.288          | 0.288  | 0.136           | 0.136  |          |
|                        |      |            | Edge 2        | 23230 | 782.0       | 1             | 24        | 24.0          | 24.0  | 0.630          | 0.630  | 0.422           | 0.422  | 25       |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.507          | 0.507  | 0.340           | 0.340  |          |
|                        |      |            | Edge 4        | 23230 | 782.0       | 1             | 24        | 24.0          | 24.0  | 0.268          | 0.268  | 0.179           | 0.179  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.209          | 0.209  | 0.139           | 0.139  |          |

#### LAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 23230 | 782.0       | 1             | 24        | 24.8          | 24.8  | 0.243          | 0.243  | 0.187           | 0.187  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.194          | 0.194  | 0.152           | 0.152  |          |
|                        |      |            | Left Tilt     | 23230 | 782.0       | 1             | 24        | 24.8          | 24.8  | 0.165          | 0.165  | 0.129           | 0.129  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.115          | 0.115  | 0.090           | 0.090  |          |
|                        |      |            | Right Touch   | 23230 | 782.0       | 1             | 24        | 24.8          | 24.8  | 0.079          | 0.079  | 0.062           | 0.062  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.167          | 0.167  | 0.129           | 0.129  |          |
| Body-worn & Hotspot    | QPSK | 5          | Rear          | 23230 | 782.0       | 1             | 24        | 24.8          | 24.8  | 0.516          | 0.516  | 0.307           | 0.307  | 26       |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.411          | 0.411  | 0.245           | 0.245  |          |
|                        |      |            | Front         | 23230 | 782.0       | 1             | 24        | 24.8          | 24.8  | 0.370          | 0.370  | 0.219           | 0.219  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.275          | 0.275  | 0.165           | 0.165  |          |
| Hotspot                | QPSK | 5          | Edge 2        | 23230 | 782.0       | 1             | 24        | 24.8          | 24.8  | 0.286          | 0.286  | 0.191           | 0.191  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.231          | 0.231  | 0.154           | 0.154  |          |
|                        |      |            | Edge 3        | 23230 | 782.0       | 1             | 24        | 24.8          | 24.8  | 0.397          | 0.397  | 0.186           | 0.186  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.320          | 0.320  | 0.150           | 0.150  |          |
|                        |      |            | Edge 4        | 23230 | 782.0       | 1             | 24        | 24.8          | 24.8  | 0.570          | 0.570  | 0.383           | 0.383  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.460          | 0.460  | 0.309           | 0.309  |          |

### 10.15. LTE Band 17 (10MHz Bandwidth)

SAR for LTE Band 17 (Frequency range: 704 – 716 MHz) is covered by LTE Band 12 (Frequency range: 699 – 716 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

## 10.16. LTE Band 25 (20MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 26365 | 1882.5      | 1             | 49        | 19.5          | 19.5  | 0.302          | 0.302  | 0.163           | 0.163  |          |
|                        |      |            |               |       |             | 50            | 24        | 19.5          | 19.5  | 0.317          | 0.317  | 0.170           | 0.170  |          |
|                        |      |            | Left Tilt     | 26365 | 1882.5      | 1             | 49        | 19.5          | 19.5  | 0.345          | 0.345  | 0.174           | 0.174  |          |
|                        |      |            |               |       |             | 50            | 24        | 19.5          | 19.5  | 0.363          | 0.363  | 0.180           | 0.180  |          |
|                        |      |            | Right Touch   | 26140 | 1860.0      | 1             | 49        | 19.5          | 19.5  | 0.782          | 0.782  | 0.406           | 0.406  |          |
|                        |      |            |               |       |             | 50            | 24        | 19.5          | 19.5  | 0.803          | 0.803  | 0.406           | 0.406  |          |
|                        |      |            |               | 26365 | 1882.5      | 1             | 49        | 19.5          | 19.5  | 0.824          | 0.824  | 0.424           | 0.424  |          |
|                        |      |            |               |       |             | 50            | 24        | 19.5          | 19.5  | 0.849          | 0.849  | 0.435           | 0.435  |          |
|                        |      |            |               |       |             | 100           | 0         | 19.5          | 19.5  | 0.835          | 0.835  | 0.418           | 0.418  |          |
|                        |      |            |               | 26590 | 1905.0      | 1             | 49        | 19.5          | 19.5  | 0.860          | 0.860  | 0.428           | 0.428  |          |
|                        |      |            |               |       |             | 50            | 24        | 19.5          | 19.5  | 0.943          | 0.943  | 0.468           | 0.468  | 27       |
|                        |      |            | Right Tilt    | 26140 | 1860.0      | 1             | 49        | 19.5          | 19.5  | 0.786          | 0.786  | 0.358           | 0.358  |          |
|                        |      |            |               |       |             | 50            | 24        | 19.5          | 19.5  | 0.770          | 0.770  | 0.347           | 0.347  |          |
|                        |      |            |               | 26365 | 1882.5      | 1             | 49        | 19.5          | 19.5  | 0.821          | 0.821  | 0.374           | 0.374  |          |
|                        |      |            |               |       |             | 50            | 24        | 19.5          | 19.5  | 0.832          | 0.832  | 0.371           | 0.371  |          |
|                        |      |            |               |       |             | 100           | 0         | 19.5          | 19.5  | 0.787          | 0.787  | 0.358           | 0.358  |          |
|                        |      |            |               | 26590 | 1905.0      | 1             | 49        | 19.5          | 19.5  | 0.917          | 0.917  | 0.405           | 0.405  |          |
|                        |      |            |               |       |             | 50            | 24        | 19.5          | 19.5  | 0.866          | 0.866  | 0.395           | 0.395  |          |
| Body-worn & Hotspot    | QPSK | 5          | Rear          | 26365 | 1882.5      | 1             | 49        | 20.8          | 20.8  | 0.716          | 0.716  | 0.342           | 0.342  |          |
|                        |      |            |               |       |             | 50            | 24        | 19.8          | 19.8  | 0.622          | 0.622  | 0.303           | 0.303  |          |
|                        |      |            | Front         | 26365 | 1882.5      | 1             | 49        | 20.8          | 20.8  | 0.301          | 0.301  | 0.152           | 0.152  |          |
| Hotspot                | QPSK | 5          | Edge 1        | 26365 | 1882.5      | 1             | 49        | 20.8          | 20.8  | 0.568          | 0.568  | 0.235           | 0.235  |          |
|                        |      |            |               |       |             | 50            | 24        | 19.8          | 19.8  | 0.524          | 0.524  | 0.214           | 0.214  |          |
|                        |      |            | Edge 2        | 26365 | 1882.5      | 1             | 49        | 20.8          | 20.8  | 0.054          | 0.054  | 0.028           | 0.028  |          |
|                        |      |            |               |       |             | 50            | 24        | 19.8          | 19.8  | 0.053          | 0.053  | 0.027           | 0.027  |          |
|                        |      |            | Edge 4        | 26365 | 1882.5      | 1             | 49        | 20.8          | 20.8  | 0.423          | 0.423  | 0.220           | 0.220  |          |
|                        |      |            |               |       |             | 50            | 24        | 19.8          | 19.8  | 0.385          | 0.385  | 0.198           | 0.198  |          |

## LAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 26365 | 1882.5      | 1             | 49        | 25.3          | 25.3  | 0.477          | 0.477  | 0.288           | 0.288  |          |
|                        |      |            |               |       |             | 50            | 24        | 24.3          | 24.3  | 0.462          | 0.462  | 0.276           | 0.276  |          |
|                        |      |            | Left Tilt     | 26365 | 1882.5      | 1             | 49        | 25.3          | 25.3  | 0.211          | 0.211  | 0.125           | 0.125  |          |
|                        |      |            |               |       |             | 50            | 24        | 24.3          | 24.3  | 0.170          | 0.170  | 0.100           | 0.100  |          |
|                        |      |            | Right Touch   | 26365 | 1882.5      | 1             | 49        | 25.3          | 25.3  | 0.303          | 0.303  | 0.188           | 0.188  |          |
|                        |      |            |               |       |             | 50            | 24        | 24.3          | 24.3  | 0.241          | 0.241  | 0.149           | 0.149  |          |
|                        |      |            | Right Tilt    | 26365 | 1882.5      | 1             | 49        | 25.3          | 25.3  | 0.247          | 0.247  | 0.144           | 0.144  |          |
|                        |      |            |               |       |             | 50            | 24        | 24.3          | 24.3  | 0.202          | 0.202  | 0.118           | 0.118  |          |
| Body-worn & Hotspot    | QPSK | 5          | Rear          | 26140 | 1860.0      | 1             | 49        | 23.3          | 23.2  | 0.962          | 0.984  | 0.533           | 0.545  |          |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.2  | 0.974          | 0.997  | 0.541           | 0.554  |          |
|                        |      |            |               | 26365 | 1882.5      | 1             | 49        | 23.3          | 23.2  | 1.040          | 1.064  | 0.535           | 0.547  |          |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.3  | 1.060          | 1.060  | 0.542           | 0.542  |          |
|                        |      |            | Front         | 26590 | 1905.0      | 1             | 49        | 23.3          | 23.3  | 1.070          | 1.070  | 0.534           | 0.534  | 28       |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.3  | 1.010          | 1.010  | 0.498           | 0.498  |          |
|                        |      |            |               | 26365 | 1882.5      | 1             | 49        | 23.3          | 23.2  | 0.407          | 0.416  | 0.236           | 0.241  |          |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.3  | 0.425          | 0.425  | 0.244           | 0.244  |          |
| Hotspot                | QPSK | 5          | Edge 2        | 26365 | 1882.5      | 1             | 49        | 23.3          | 23.2  | 0.231          | 0.236  | 0.116           | 0.119  |          |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.3  | 0.214          | 0.214  | 0.114           | 0.114  |          |
|                        |      |            | Edge 3        | 26140 | 1860.0      | 1             | 49        | 23.3          | 23.2  | 0.886          | 0.907  | 0.441           | 0.451  |          |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.2  | 0.883          | 0.904  | 0.439           | 0.449  |          |
|                        |      |            |               | 26365 | 1882.5      | 1             | 49        | 23.3          | 23.2  | 0.981          | 1.004  | 0.478           | 0.489  |          |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.3  | 0.979          | 0.979  | 0.478           | 0.478  |          |
|                        |      |            |               | 26590 | 1905.0      | 100           | 0         | 23.3          | 23.3  | 1.060          | 1.060  | 0.506           | 0.506  |          |
|                        |      |            |               |       |             | 1             | 49        | 23.3          | 23.3  | 1.010          | 1.010  | 0.487           | 0.487  |          |
|                        |      |            | Edge 4        | 26365 | 1882.5      | 50            | 24        | 23.3          | 23.3  | 1.080          | 1.080  | 0.514           | 0.514  | 29       |
|                        |      |            |               |       |             | 1             | 49        | 23.3          | 23.2  | 0.651          | 0.666  | 0.358           | 0.366  |          |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.3  | 0.591          | 0.591  | 0.327           | 0.327  |          |

## 10.17. LTE Band 26 (10MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 26865 | 831.5       | 1             | 24        | 24.0          | 24.0  | 0.712          | 0.712  | 0.432           | 0.432  | 30       |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.581          | 0.581  | 0.350           | 0.350  |          |
|                        |      |            | Left Tilt     | 26865 | 831.5       | 1             | 24        | 24.0          | 24.0  | 0.650          | 0.650  | 0.330           | 0.330  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.534          | 0.534  | 0.270           | 0.270  |          |
|                        |      |            | Right Touch   | 26865 | 831.5       | 1             | 24        | 24.0          | 24.0  | 0.604          | 0.604  | 0.380           | 0.380  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.487          | 0.487  | 0.306           | 0.306  |          |
| Body-worn & Hotspot    | QPSK | 5          | Rear          | 26865 | 831.5       | 1             | 24        | 24.0          | 24.0  | 0.625          | 0.625  | 0.338           | 0.338  | 31       |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.506          | 0.506  | 0.272           | 0.272  |          |
|                        |      |            | Front         | 26865 | 831.5       | 1             | 24        | 24.0          | 24.0  | 0.462          | 0.462  | 0.253           | 0.253  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.370          | 0.370  | 0.202           | 0.202  |          |
|                        |      |            | Edge 1        | 26865 | 831.5       | 1             | 24        | 24.0          | 24.0  | 0.561          | 0.561  | 0.253           | 0.253  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.442          | 0.442  | 0.199           | 0.199  |          |
| Hotspot                | QPSK | 5          | Edge 2        | 26865 | 831.5       | 1             | 24        | 24.0          | 24.0  | 0.590          | 0.590  | 0.388           | 0.388  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.471          | 0.471  | 0.309           | 0.309  |          |
|                        |      |            | Edge 4        | 26865 | 831.5       | 1             | 24        | 24.0          | 24.0  | 0.177          | 0.177  | 0.115           | 0.115  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.143          | 0.143  | 0.093           | 0.093  |          |
|                        |      |            | Edge 1        | 26865 | 831.5       | 1             | 24        | 24.0          | 24.0  | 0.561          | 0.561  | 0.253           | 0.253  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.0          | 23.0  | 0.442          | 0.442  | 0.199           | 0.199  |          |

### LAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 26865 | 831.5       | 1             | 24        | 24.8          | 24.8  | 0.241          | 0.241  | 0.188           | 0.188  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.190          | 0.190  | 0.149           | 0.149  |          |
|                        |      |            | Left Tilt     | 26865 | 831.5       | 1             | 24        | 24.8          | 24.8  | 0.140          | 0.140  | 0.109           | 0.109  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.112          | 0.112  | 0.087           | 0.087  |          |
|                        |      |            | Right Touch   | 26865 | 831.5       | 1             | 24        | 24.8          | 24.8  | 0.225          | 0.225  | 0.172           | 0.172  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.173          | 0.173  | 0.133           | 0.133  |          |
| Body-worn & Hotspot    | QPSK | 5          | Right Tilt    | 26865 | 831.5       | 1             | 24        | 24.8          | 24.8  | 0.131          | 0.131  | 0.103           | 0.103  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.106          | 0.106  | 0.083           | 0.083  |          |
|                        |      |            | Rear          | 26865 | 831.5       | 1             | 24        | 24.8          | 24.8  | 0.557          | 0.557  | 0.338           | 0.338  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.451          | 0.451  | 0.273           | 0.273  |          |
|                        |      |            | Front         | 26865 | 831.5       | 1             | 24        | 24.8          | 24.8  | 0.278          | 0.278  | 0.158           | 0.158  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.222          | 0.222  | 0.127           | 0.127  |          |
| Hotspot                | QPSK | 5          | Edge 2        | 26865 | 831.5       | 1             | 24        | 24.8          | 24.8  | 0.325          | 0.325  | 0.212           | 0.212  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.258          | 0.258  | 0.168           | 0.168  |          |
|                        |      |            | Edge 3        | 26865 | 831.5       | 1             | 24        | 24.8          | 24.8  | 0.324          | 0.324  | 0.144           | 0.144  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.263          | 0.263  | 0.116           | 0.116  |          |
|                        |      |            | Edge 4        | 26865 | 831.5       | 1             | 24        | 24.8          | 24.8  | 0.646          | 0.646  | 0.422           | 0.422  |          |
|                        |      |            |               |       |             | 25            | 12        | 23.8          | 23.8  | 0.492          | 0.492  | 0.321           | 0.321  |          |

## 10.18. LTE Band 30 (10MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 27710 | 2310.0      | 1             | 24        | 20.0          | 20.0  | 0.621          | 0.621  | 0.261           | 0.261  |          |
|                        |      |            |               |       |             | 25            | 12        | 20.0          | 20.0  | 0.627          | 0.627  | 0.262           | 0.262  |          |
|                        |      |            | Left Tilt     | 27710 | 2310.0      | 1             | 24        | 20.0          | 20.0  | 0.637          | 0.637  | 0.244           | 0.244  |          |
|                        |      |            |               |       |             | 25            | 12        | 20.0          | 20.0  | 0.649          | 0.649  | 0.247           | 0.247  |          |
|                        |      |            | Right Touch   | 27710 | 2310.0      | 1             | 24        | 20.0          | 20.0  | 0.953          | 0.953  | 0.387           | 0.387  |          |
|                        |      |            |               |       |             | 25            | 12        | 20.0          | 20.0  | 0.959          | 0.959  | 0.388           | 0.388  |          |
|                        |      |            |               |       |             | 50            | 0         | 20.0          | 20.0  | 0.971          | 0.971  | 0.393           | 0.393  |          |
|                        |      |            | Right Tilt    | 27710 | 2310.0      | 1             | 24        | 20.0          | 20.0  | 0.985          | 0.985  | 0.370           | 0.370  |          |
|                        |      |            |               |       |             | 25            | 12        | 20.0          | 20.0  | 0.990          | 0.990  | 0.371           | 0.371  |          |
|                        |      |            |               |       |             | 50            | 0         | 20.0          | 20.0  | 1.010          | 1.010  | 0.389           | 0.389  | 33       |
| Body-worn & Hotspot    | QPSK | 5          | Rear          | 27710 | 2310.0      | 1             | 24        | 20.0          | 20.0  | 0.800          | 0.800  | 0.318           | 0.318  |          |
|                        |      |            |               |       |             | 25            | 12        | 20.0          | 20.0  | 0.810          | 0.810  | 0.322           | 0.322  |          |
|                        |      |            |               |       |             | 50            | 0         | 20.0          | 20.0  | 0.836          | 0.836  | 0.332           | 0.332  |          |
|                        |      |            | Front         | 27710 | 2310.0      | 1             | 24        | 20.0          | 20.0  | 0.424          | 0.424  | 0.176           | 0.176  |          |
|                        |      |            |               |       |             | 25            | 12        | 20.0          | 20.0  | 0.426          | 0.426  | 0.176           | 0.176  |          |
|                        |      |            |               |       |             | 50            | 0         | 20.0          | 20.0  | 0.426          | 0.426  | 0.176           | 0.176  |          |
| Hotspot                | QPSK | 5          | Edge 1        | 27710 | 2310.0      | 1             | 24        | 20.0          | 20.0  | 0.518          | 0.518  | 0.177           | 0.177  |          |
|                        |      |            |               |       |             | 25            | 12        | 20.0          | 20.0  | 0.525          | 0.525  | 0.179           | 0.179  |          |
|                        |      |            | Edge 2        | 27710 | 2310.0      | 1             | 24        | 20.0          | 20.0  | 0.334          | 0.334  | 0.138           | 0.138  |          |
|                        |      |            |               |       |             | 25            | 12        | 20.0          | 20.0  | 0.336          | 0.336  | 0.139           | 0.139  |          |
|                        |      |            | Edge 4        | 27710 | 2310.0      | 1             | 24        | 20.0          | 20.0  | 0.423          | 0.423  | 0.194           | 0.194  |          |
|                        |      |            |               |       |             | 25            | 12        | 20.0          | 20.0  | 0.431          | 0.431  | 0.197           | 0.197  |          |

### LAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 27710 | 2310.0      | 1             | 24        | 23.8          | 23.8  | 0.164          | 0.164  | 0.096           | 0.096  |          |
|                        |      |            |               |       |             | 25            | 12        | 22.8          | 22.8  | 0.134          | 0.134  | 0.080           | 0.080  |          |
|                        |      |            | Left Tilt     | 27710 | 2310.0      | 1             | 24        | 23.8          | 23.8  | 0.159          | 0.159  | 0.076           | 0.076  |          |
|                        |      |            |               |       |             | 25            | 12        | 22.8          | 22.8  | 0.119          | 0.119  | 0.056           | 0.056  |          |
|                        |      |            | Right Touch   | 27710 | 2310.0      | 1             | 24        | 23.8          | 23.8  | 0.351          | 0.351  | 0.198           | 0.198  |          |
|                        |      |            |               |       |             | 25            | 12        | 22.8          | 22.8  | 0.290          | 0.290  | 0.163           | 0.163  |          |
|                        |      |            | Right Tilt    | 27710 | 2310.0      | 1             | 24        | 23.8          | 23.8  | 0.192          | 0.192  | 0.096           | 0.096  |          |
|                        |      |            |               |       |             | 25            | 12        | 22.8          | 22.8  | 0.147          | 0.147  | 0.073           | 0.073  |          |
| Body-worn & Hotspot    | QPSK | 5          | Rear          | 27710 | 2310.0      | 1             | 24        | 22.0          | 22.0  | 0.954          | 0.954  | 0.399           | 0.399  |          |
|                        |      |            |               |       |             | 25            | 12        | 22.0          | 22.0  | 0.960          | 0.960  | 0.399           | 0.399  |          |
|                        |      |            |               |       |             | 50            | 0         | 22.0          | 22.0  | 0.975          | 0.975  | 0.407           | 0.407  | 34       |
|                        |      |            | Front         | 27710 | 2310.0      | 1             | 24        | 22.0          | 22.0  | 0.524          | 0.524  | 0.234           | 0.234  |          |
|                        |      |            |               |       |             | 25            | 12        | 22.0          | 22.0  | 0.462          | 0.462  | 0.202           | 0.202  |          |
|                        |      |            |               |       |             | 50            | 0         | 22.0          | 22.0  | 0.462          | 0.462  | 0.202           | 0.202  |          |
| Hotspot                | QPSK | 5          | Edge 2        | 27710 | 2310.0      | 1             | 24        | 22.0          | 22.0  | 0.452          | 0.452  | 0.203           | 0.203  |          |
|                        |      |            |               |       |             | 25            | 12        | 22.0          | 22.0  | 0.427          | 0.427  | 0.200           | 0.200  |          |
|                        |      |            | Edge 3        | 27710 | 2310.0      | 1             | 24        | 22.0          | 22.0  | 0.615          | 0.615  | 0.218           | 0.218  |          |
|                        |      |            |               |       |             | 25            | 12        | 22.0          | 22.0  | 0.657          | 0.657  | 0.230           | 0.230  |          |
|                        |      |            | Edge 4        | 27710 | 2310.0      | 1             | 24        | 22.0          | 22.0  | 0.232          | 0.232  | 0.106           | 0.106  |          |
|                        |      |            |               |       |             | 25            | 12        | 22.0          | 22.0  | 0.197          | 0.197  | 0.093           | 0.093  |          |

## 10.19. LTE Band 41 (20MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #.  | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|--------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |        |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 39750  | 2506.0      | 1             | 49        | 21.3          | 21.2  | 1.010          | 1.034  | 0.391           | 0.400  | 35       |
|                        |      |            |               |        |             | 50            | 24        | 20.4          | 20.2  | 0.889          | 0.931  | 0.341           | 0.357  |          |
|                        |      |            |               | 40185  | 2549.5      | 1             | 49        | 21.3          | 21.2  | 0.935          | 0.957  | 0.355           | 0.363  |          |
|                        |      |            |               |        |             | 50            | 24        | 20.4          | 20.3  | 0.791          | 0.809  | 0.297           | 0.304  |          |
|                        |      |            |               | 40620  | 2593.0      | 1             | 49        | 21.3          | 21.2  | 0.795          | 0.814  | 0.298           | 0.305  |          |
|                        |      |            |               |        |             | 50            | 24        | 20.4          | 20.4  | 0.746          | 0.746  | 0.277           | 0.277  |          |
|                        |      |            |               |        |             | 100           | 0         | 20.4          | 20.3  | 0.679          | 0.695  | 0.253           | 0.259  |          |
|                        |      |            | 41055         | 2636.5 |             | 1             | 49        | 21.3          | 21.3  | 0.744          | 0.744  | 0.275           | 0.275  |          |
|                        |      |            |               |        |             | 50            | 24        | 20.4          | 20.4  | 0.645          | 0.645  | 0.238           | 0.238  |          |
|                        |      |            |               |        |             | 1             | 49        | 21.3          | 21.3  | 0.605          | 0.605  | 0.221           | 0.221  |          |
|                        |      |            | 41490         | 2680.0 |             | 50            | 24        | 20.4          | 20.3  | 0.529          | 0.541  | 0.191           | 0.195  |          |
|                        |      |            | Left Tilt     | 40620  | 2593.0      | 1             | 49        | 21.3          | 21.2  | 0.436          | 0.446  | 0.180           | 0.184  |          |
|                        |      |            |               |        |             | 50            | 24        | 20.4          | 20.4  | 0.380          | 0.380  | 0.158           | 0.158  |          |
|                        |      |            | Right Touch   | 40620  | 2593.0      | 1             | 49        | 21.3          | 21.2  | 0.203          | 0.208  | 0.096           | 0.098  |          |
|                        |      |            |               |        |             | 50            | 24        | 20.4          | 20.4  | 0.202          | 0.202  | 0.091           | 0.091  |          |
|                        |      |            | Right Tilt    | 40620  | 2593.0      | 1             | 49        | 21.3          | 21.2  | 0.252          | 0.258  | 0.110           | 0.113  |          |
|                        |      |            |               |        |             | 50            | 24        | 20.4          | 20.4  | 0.227          | 0.227  | 0.097           | 0.097  |          |
| Body-worn & Hotspot    | QPSK | 5          | Rear          | 40620  | 2593.0      | 1             | 49        | 21.4          | 21.4  | 0.485          | 0.485  | 0.195           | 0.195  |          |
|                        |      |            |               |        |             | 50            | 24        | 20.4          | 20.4  | 0.389          | 0.389  | 0.155           | 0.155  |          |
|                        |      |            | Front         | 40620  | 2593.0      | 1             | 49        | 21.4          | 21.4  | 0.255          | 0.255  | 0.111           | 0.111  |          |
|                        |      |            |               |        |             | 50            | 24        | 20.4          | 20.4  | 0.204          | 0.204  | 0.088           | 0.088  |          |
| Hotspot                | QPSK | 5          | Edge 1        | 40620  | 2593.0      | 1             | 49        | 21.4          | 21.4  | 0.247          | 0.247  | 0.102           | 0.102  |          |
|                        |      |            |               |        |             | 50            | 24        | 20.4          | 20.4  | 0.199          | 0.199  | 0.082           | 0.082  |          |
|                        |      |            | Edge 2        | 40620  | 2593.0      | 1             | 49        | 21.4          | 21.4  | 0.210          | 0.210  | 0.096           | 0.096  |          |
|                        |      |            |               |        |             | 50            | 24        | 20.4          | 20.4  | 0.166          | 0.166  | 0.076           | 0.076  |          |
|                        |      |            | Edge 4        | 40620  | 2593.0      | 1             | 49        | 21.4          | 21.4  | 0.099          | 0.099  | 0.043           | 0.043  |          |
|                        |      |            |               |        |             | 50            | 24        | 20.4          | 20.4  | 0.079          | 0.079  | 0.034           | 0.034  |          |

## LAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 40620 | 2593.0      | 1             | 49        | 25.3          | 25.3  | 0.358          | 0.358  | 0.179           | 0.179  |          |
|                        |      |            |               |       |             | 50            | 24        | 24.3          | 24.3  | 0.318          | 0.318  | 0.159           | 0.159  |          |
|                        |      |            | Left Tilt     | 40620 | 2593.0      | 1             | 49        | 25.3          | 25.3  | 0.096          | 0.096  | 0.048           | 0.048  |          |
|                        |      |            |               |       |             | 50            | 24        | 24.3          | 24.3  | 0.086          | 0.086  | 0.043           | 0.043  |          |
|                        |      |            | Right Touch   | 40620 | 2593.0      | 1             | 49        | 25.3          | 25.3  | 0.144          | 0.144  | 0.076           | 0.076  |          |
|                        |      |            |               |       |             | 50            | 24        | 24.3          | 24.3  | 0.131          | 0.131  | 0.069           | 0.069  |          |
|                        |      |            | Right Tilt    | 40620 | 2593.0      | 1             | 49        | 25.3          | 25.3  | 0.164          | 0.164  | 0.077           | 0.077  |          |
|                        |      |            |               |       |             | 50            | 24        | 24.3          | 24.3  | 0.147          | 0.147  | 0.069           | 0.069  |          |
| Body-worn & Hotspot    | QPSK | 5          | Rear          | 39750 | 2506.0      | 1             | 49        | 23.3          | 23.3  | 0.668          | 0.668  | 0.270           | 0.270  |          |
|                        |      |            |               | 40185 | 2549.5      | 1             | 49        | 23.3          | 23.2  | 0.869          | 0.889  | 0.346           | 0.354  |          |
|                        |      |            |               | 40620 | 2593.0      | 1             | 49        | 23.3          | 23.1  | 0.766          | 0.802  | 0.310           | 0.325  |          |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.3  | 0.663          | 0.663  | 0.271           | 0.271  |          |
|                        |      |            |               | 41055 | 2636.5      | 1             | 49        | 23.3          | 23.3  | 0.936          | 0.936  | 0.362           | 0.362  | 36       |
|                        |      |            |               | 41490 | 2680.0      | 1             | 49        | 23.3          | 23.3  | 0.893          | 0.893  | 0.347           | 0.347  |          |
|                        |      |            | Front         | 40620 | 2593.0      | 1             | 49        | 23.3          | 23.1  | 0.667          | 0.698  | 0.269           | 0.282  |          |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.3  | 0.751          | 0.751  | 0.297           | 0.297  |          |
| Hotspot                | QPSK | 5          | Edge 2        | 40620 | 2593.0      | 1             | 49        | 23.3          | 23.1  | 0.174          | 0.182  | 0.079           | 0.083  |          |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.3  | 0.134          | 0.134  | 0.062           | 0.062  |          |
|                        |      |            | Edge 3        | 40620 | 2593.0      | 1             | 49        | 23.3          | 23.1  | 0.738          | 0.773  | 0.254           | 0.266  |          |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.3  | 0.630          | 0.630  | 0.216           | 0.216  |          |
|                        |      |            | Edge 4        | 40620 | 2593.0      | 1             | 49        | 23.3          | 23.1  | 0.549          | 0.575  | 0.241           | 0.252  |          |
|                        |      |            |               |       |             | 50            | 24        | 23.3          | 23.3  | 0.506          | 0.506  | 0.222           | 0.222  |          |

## 10.20. LTE Band 66 (20MHz Bandwidth)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #.  | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|--------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               |        |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK | 0          | Left Touch    | 132322 | 1745.0      | 1             | 49        | 21.8          | 21.8  | 0.462          | 0.462  | 0.272           | 0.272  | 37       |
|                        |      |            |               |        |             | 50            | 24        | 21.2          | 21.2  | 0.383          | 0.383  | 0.225           | 0.225  |          |
|                        |      |            | Left Tilt     | 132322 | 1745.0      | 1             | 49        | 21.8          | 21.8  | 0.397          | 0.397  | 0.239           | 0.239  |          |
|                        |      |            |               |        |             | 50            | 24        | 21.2          | 21.2  | 0.337          | 0.337  | 0.203           | 0.203  |          |
|                        |      |            | Right Touch   | 132072 | 1720.0      | 1             | 49        | 21.8          | 21.8  | 0.967          | 0.967  | 0.541           | 0.541  |          |
|                        |      |            |               | 132322 | 1745.0      | 1             | 49        | 21.8          | 21.8  | 1.070          | 1.070  | 0.605           | 0.605  |          |
|                        |      |            |               |        |             | 50            | 24        | 21.2          | 21.2  | 0.796          | 0.796  | 0.455           | 0.455  |          |
|                        |      |            |               | 132572 | 1770.0      | 1             | 49        | 21.8          | 21.6  | 0.837          | 0.876  | 0.461           | 0.483  |          |
|                        |      |            | Right Tilt    | 132072 | 1720.0      | 1             | 49        | 21.8          | 21.8  | 0.822          | 0.822  | 0.419           | 0.419  |          |
|                        |      |            |               | 132322 | 1745.0      | 1             | 49        | 21.8          | 21.8  | 0.893          | 0.893  | 0.454           | 0.454  |          |
|                        |      |            |               |        |             | 50            | 24        | 21.2          | 21.2  | 0.710          | 0.710  | 0.369           | 0.369  |          |
|                        |      |            |               | 132572 | 1770.0      | 1             | 49        | 21.8          | 21.6  | 0.783          | 0.820  | 0.379           | 0.397  |          |
| Body-worn & Hotspot    | QPSK | 5          | Rear          | 132072 | 1720.0      | 1             | 49        | 22.2          | 22.2  | 0.893          | 0.893  | 0.448           | 0.448  |          |
|                        |      |            |               | 132322 | 1745.0      | 1             | 49        | 22.2          | 22.2  | 0.849          | 0.849  | 0.423           | 0.423  |          |
|                        |      |            |               |        |             | 50            | 24        | 21.2          | 21.2  | 0.686          | 0.686  | 0.343           | 0.343  |          |
|                        |      |            |               | 132572 | 1770.0      | 1             | 49        | 22.2          | 22.2  | 0.846          | 0.846  | 0.422           | 0.422  |          |
|                        |      |            | Front         | 132322 | 1745.0      | 1             | 49        | 22.2          | 22.2  | 0.403          | 0.403  | 0.219           | 0.219  |          |
|                        |      |            |               |        |             | 50            | 24        | 21.2          | 21.2  | 0.317          | 0.317  | 0.172           | 0.172  |          |
| Hotspot                | QPSK | 5          | Edge 1        | 132322 | 1745.0      | 1             | 49        | 22.2          | 22.2  | 0.763          | 0.763  | 0.340           | 0.340  |          |
|                        |      |            |               |        |             | 50            | 24        | 21.2          | 21.2  | 0.581          | 0.581  | 0.259           | 0.259  |          |
|                        |      |            | Edge 2        | 132322 | 1745.0      | 1             | 49        | 22.2          | 22.2  | 0.065          | 0.065  | 0.037           | 0.037  |          |
|                        |      |            |               |        |             | 50            | 24        | 21.2          | 21.2  | 0.052          | 0.052  | 0.030           | 0.030  |          |
|                        |      |            | Edge 4        | 132322 | 1745.0      | 1             | 49        | 22.2          | 22.2  | 0.636          | 0.636  | 0.348           | 0.348  |          |
|                        |      |            |               |        |             | 50            | 24        | 21.2          | 21.2  | 0.520          | 0.520  | 0.283           | 0.283  |          |

## LAT 1

| RF Exposure Conditions | Mode   | Dist. (mm) | Test Position | Ch #.  | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|--------|------------|---------------|--------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |        |            |               |        |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | QPSK   | 0          | Left Touch    | 132322 | 1745.0      | 1             | 49        | 25.3          | 25.3  | 0.464          | 0.464  | 0.297           | 0.297  |          |
|                        |        |            |               |        |             | 50            | 24        | 24.3          | 24.3  | 0.371          | 0.371  | 0.237           | 0.237  |          |
|                        |        |            | Left Tilt     | 132322 | 1745.0      | 1             | 49        | 25.3          | 25.3  | 0.215          | 0.215  | 0.138           | 0.138  |          |
|                        |        |            |               |        |             | 50            | 24        | 24.3          | 24.3  | 0.170          | 0.170  | 0.110           | 0.110  |          |
|                        |        |            | Right Touch   | 132322 | 1745.0      | 1             | 49        | 25.3          | 25.3  | 0.229          | 0.229  | 0.155           | 0.155  |          |
|                        |        |            |               |        |             | 50            | 24        | 24.3          | 24.3  | 0.183          | 0.183  | 0.124           | 0.124  |          |
|                        |        |            | Right Tilt    | 132322 | 1745.0      | 1             | 49        | 25.3          | 25.3  | 0.234          | 0.234  | 0.146           | 0.146  |          |
|                        |        |            |               |        |             | 50            | 24        | 24.3          | 24.3  | 0.184          | 0.184  | 0.116           | 0.116  |          |
| Body-worn & Hotspot    | QPSK   | 5          | Rear          | 132072 | 1720.0      | 1             | 49        | 24.5          | 24.5  | 0.901          | 0.901  | 0.501           | 0.501  |          |
|                        |        |            |               |        |             | 50            | 24        | 24.3          | 24.2  | 0.849          | 0.869  | 0.463           | 0.474  |          |
|                        |        |            |               | 132322 | 1745.0      | 1             | 49        | 24.5          | 24.5  | 0.861          | 0.861  | 0.488           | 0.488  |          |
|                        |        |            |               |        |             | 50            | 24        | 24.3          | 24.2  | 0.891          | 0.912  | 0.513           | 0.525  |          |
|                        |        |            |               |        |             | 100           | 0         | 24.3          | 24.2  | 1.040          | 1.064  | 0.578           | 0.591  | 38       |
|                        |        |            |               | 132572 | 1770.0      | 1             | 49        | 24.5          | 24.5  | 0.979          | 0.979  | 0.553           | 0.553  |          |
|                        |        |            | 50            |        |             | 24            | 24.3      | 24.2          | 1.010 | 1.034          | 0.559  | 0.572           |        |          |
|                        |        |            | Front         | 132322 | 1745.0      | 1             | 49        | 24.5          | 24.5  | 0.643          | 0.643  | 0.417           | 0.417  |          |
|                        |        |            |               |        |             | 50            | 24        | 24.3          | 24.2  | 0.446          | 0.456  | 0.293           | 0.300  |          |
|                        |        |            | Hotspot       | QPSK   | 5           | Edge 2        | 132322    | 1745.0        | 1     | 49             | 24.5   | 24.5            | 0.126  | 0.126    |
| 50                     | 24     | 24.3       |               |        |             |               |           |               | 24.2  | 0.108          | 0.111  | 0.061           | 0.062  |          |
| Edge 3                 | 132322 | 1745.0     |               |        |             | 1             | 49        | 24.5          | 24.5  | 0.503          | 0.503  | 0.228           | 0.228  |          |
|                        |        |            |               |        |             | 50            | 24        | 24.3          | 24.2  | 0.500          | 0.512  | 0.226           | 0.231  |          |
| Edge 4                 | 132322 | 1745.0     |               |        |             | 1             | 49        | 24.5          | 24.5  | 0.640          | 0.640  | 0.368           | 0.368  |          |
|                        |        |            |               |        |             | 50            | 24        | 24.3          | 24.2  | 0.614          | 0.628  | 0.352           | 0.360  |          |

### 10.21. LTE-uplink 2CA Band 7 (20MHz + 20MHz BW)

SAR Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

| RF Exposure Conditions | Power Mode | Mode | Antenna | Dist. (mm) | Test Position | PCC   |             |               |           | SCC   |             |               |           | Power (dBm) |               |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------|------|---------|------------|---------------|-------|-------------|---------------|-----------|-------|-------------|---------------|-----------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |            |      |         |            |               | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Ch #. | Freq. (MHz) | RB Allocation | RB offset | MPR         | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | A          | QPSK | UAT     | 0          | Left Touch    | 20850 | 2510.0      | 1             | 99        | 21048 | 2529.8      | 1             | 0         | 0           | 19.8          | 19.8  | 0.786          | 0.786  | 0.312           | 0.312  |          |
| Body                   | B          | QPSK | LAT     | 5          | Rear          | 21350 | 2560.0      | 1             | 0         | 21152 | 2540.2      | 1             | 99        | 0           | 22.0          | 22.0  | 0.813          | 0.813  | 0.325           | 0.325  | 39       |

#### Notes:

- From FCC PAG Guidance and Manufacturer KDB inquiry - Carrier Aggregation: PCC channel was determined and selected closest to the worst case SAR configuration from standalone reported SAR result. PCC and SCC channels were determined and selected to allow contiguous CA. RB allocations and offsets were selected to allow maximum measured output power. Output power was measured and verified for these test cases.

### 10.22. LTE-uplink 2CA Band 41 (20MHz + 20MHz BW)

SAR Testing was performed on each antenna – UAT 1 and LAT 1 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

| RF Exposure Conditions | Power Mode | Mode | Antenna | Dist. (mm) | Test Position | PCC   |             |               |           | SCC   |             |               |           | Power (dBm) |               |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------------|------|---------|------------|---------------|-------|-------------|---------------|-----------|-------|-------------|---------------|-----------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |            |      |         |            |               | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Ch #. | Freq. (MHz) | RB Allocation | RB offset | MPR         | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Head                   | A          | QPSK | UAT     | 0          | Left Touch    | 39750 | 2506.0      | 1             | 99        | 39948 | 2525.8      | 1             | 0         | 0           | 19.3          | 19.2  | 0.554          | 0.567  | 0.216           | 0.221  |          |
| Body                   | B          | QPSK | LAT     | 5          | Rear          | 41055 | 2636.5      | 1             | 99        | 41253 | 2656.3      | 1             | 0         | 0           | 23.3          | 23.3  | 0.799          | 0.799  | 0.306           | 0.306  | 40       |

#### Notes:

- From FCC PAG Guidance and Manufacturer KDB inquiry - Carrier Aggregation: PCC channel was determined and selected closest to the worst case SAR configuration from standalone reported SAR result. PCC and SCC channels were determined and selected to allow contiguous CA. RB allocations and offsets were selected to allow maximum measured output power. Output power was measured and verified for these test cases.

## 10.23. Wi-Fi (DTS Band)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed for each power configuration for Wi-Fi: Cell On and Cell Off and for each Antenna – UAT 1 and LAT 3 –using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### Cell On

| Band    | RF Exposure Condition | Mode          | Dist. (mm) | No. of Transmitters | Position    | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | Area Scan Measured Peak | SAR (W/kg) |       |        |       |          |       |        |       | Plots |
|---------|-----------------------|---------------|------------|---------------------|-------------|-------|-------------|---------------|----------|---------------|----------|-------------------------|------------|-------|--------|-------|----------|-------|--------|-------|-------|
|         |                       |               |            |                     |             |       |             | UAT 1         |          | LAT 3         |          |                         | UAT 1      |       |        |       | LAT 3    |       |        |       |       |
|         |                       |               |            |                     |             |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured |                         | Measured   |       | Scaled |       | Measured |       | Scaled |       |       |
|         |                       |               |            |                     |             |       |             |               |          |               |          |                         | 1-g        | 10-g  | 1-g    | 10-g  | 1-g      | 10-g  | 1-g    | 10-g  |       |
| 2.4 GHz | Head                  | 802.11b 20MHz | 0          | 1 Tx                | Left Touch  | 6     | 2437        | 13.0          | 13.0     |               |          | 0.510                   | 0.322      | 0.125 | 0.322  | 0.125 |          |       |        |       |       |
|         |                       |               |            |                     | Left Tilt   | 6     | 2437        | 13.0          | 13.0     |               |          | 0.411                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Right Touch | 6     | 2437        | 13.0          | 13.0     |               |          | 0.313                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Right Tilt  | 6     | 2437        | 13.0          | 13.0     |               |          | 0.460                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Left Touch  | 6     | 2437        |               |          | 22.0          | 22.0     | 0.318                   |            |       |        |       | 0.249    | 0.132 | 0.249  | 0.132 |       |
|         |                       |               |            |                     | Left Tilt   | 6     | 2437        |               |          | 22.0          | 22.0     | 0.095                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Right Touch | 6     | 2437        |               |          | 22.0          | 22.0     | 0.158                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Right Tilt  | 6     | 2437        |               |          | 22.0          | 22.0     | 0.140                   |            |       |        |       |          |       |        |       |       |
|         |                       | 802.11g 20MHz | 0          | 2 Tx                | Left Touch  | 6     | 2437        | 13.0          | 13.0     | 21.5          | 21.5     | 0.547                   | 0.310      | 0.125 | 0.310  | 0.125 | 0.163    | 0.084 | 0.163  | 0.084 |       |
|         |                       |               |            |                     | Left Tilt   | 6     | 2437        | 13.0          | 13.0     | 21.5          | 21.5     | 0.418                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Right Touch | 6     | 2437        | 13.0          | 13.0     | 21.5          | 21.5     | 0.400                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Right Tilt  | 6     | 2437        | 13.0          | 13.0     | 21.5          | 21.5     | 0.382                   |            |       |        |       |          |       |        |       |       |
|         | Body-worn & Hotspot   | 802.11b 20MHz | 5          | 1 Tx                | Rear        | 6     | 2437        | 15.5          | 15.5     |               |          | 0.549                   | 0.413      | 0.168 | 0.413  | 0.168 |          |       |        |       |       |
|         |                       |               |            |                     | Front       | 6     | 2437        | 15.5          | 15.5     |               |          | 0.358                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Edge 1      | 6     | 2437        | 15.5          | 15.5     |               |          | 0.463                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Edge 2      | 6     | 2437        | 15.5          | 15.5     |               |          | 0.467                   | 0.474      | 0.196 | 0.474  | 0.196 |          |       |        |       |       |
|         |                       |               |            |                     | Edge 4      | 6     | 2437        | 15.5          | 15.5     |               |          | 0.150                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Rear        | 6     | 2437        |               |          | 15.5          | 15.5     | 0.395                   |            |       |        |       | 0.334    | 0.157 | 0.334  | 0.157 |       |
|         |                       |               |            |                     | Front       | 6     | 2437        |               |          | 15.5          | 15.5     | 0.179                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Edge 2      | 6     | 2437        |               |          | 15.5          | 15.5     | 0.005                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Edge 3      | 6     | 2437        |               |          | 15.5          | 15.5     | 0.081                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Edge 4      | 6     | 2437        |               |          | 15.5          | 15.5     | 0.258                   |            |       |        |       |          |       |        |       |       |
|         |                       | 802.11g 20MHz | 5          | 2 Tx                | Rear        | 6     | 2437        | 15.5          | 15.5     | 15.5          | 15.5     | 0.760                   | 0.540      | 0.199 | 0.540  | 0.199 | 0.319    | 0.147 | 0.319  | 0.147 |       |
|         |                       |               |            |                     | Front       | 6     | 2437        | 15.5          | 15.5     | 15.5          | 15.5     | 0.122                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Edge 1      | 6     | 2437        | 15.5          | 15.5     | 15.5          | 15.5     | 0.242                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Edge 2      | 6     | 2437        | 15.5          | 15.5     | 15.5          | 15.5     | 0.279                   | 0.487      | 0.198 | 0.487  | 0.198 | 0.188    | 0.088 | 0.188  | 0.088 |       |
|         |                       |               |            |                     | Edge 3      | 6     | 2437        | 15.5          | 15.5     | 15.5          | 15.5     | 0.048                   |            |       |        |       |          |       |        |       |       |
|         |                       |               |            |                     | Edge 4      | 6     | 2437        | 15.5          | 15.5     | 15.5          | 15.5     | 0.265                   |            |       |        |       |          |       |        |       |       |

### Notes:

For SAR results with “-“, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

## Cell Off

| Band    | RF Exposure Condition | Mode          | Dist. (mm) | No. of Transmitters | Position    | Ch #.       | Freq. (MHz) | Pow er (dBm)  |          |               |          | Area Scan Measured Peak | SAR (W/kg) |       |        |       |          |       |        |       | Plots |  |
|---------|-----------------------|---------------|------------|---------------------|-------------|-------------|-------------|---------------|----------|---------------|----------|-------------------------|------------|-------|--------|-------|----------|-------|--------|-------|-------|--|
|         |                       |               |            |                     |             |             |             | UAT 1         |          | LAT 3         |          |                         | UAT 1      |       |        |       | LAT 3    |       |        |       |       |  |
|         |                       |               |            |                     |             |             |             | Tune-up Limit | Measured | Tune-up Limit | Measured |                         | Measured   |       | Scaled |       | Measured |       | Scaled |       |       |  |
|         |                       |               |            |                     |             |             |             |               |          |               |          |                         | 1-g        | 10-g  | 1-g    | 10-g  | 1-g      | 10-g  | 1-g    | 10-g  |       |  |
| 2.4 GHz | Head                  | 802.11b 20MHz | 0          | 1 Tx                | Left Touch  | 6           | 2437        | 18.3          | 18.2     |               |          | 1.460                   | 0.988      | 0.389 | 1.011  | 0.398 |          |       |        |       | 41    |  |
|         |                       |               |            |                     |             | 11          | 2462        | 18.3          | 18.3     |               |          | 1.600                   | 1.120      | 0.431 | 1.120  | 0.431 |          |       |        |       |       |  |
|         |                       |               |            |                     | Left Tilt   | 6           | 2437        | 18.3          | 18.2     |               |          | 1.090                   | 0.780      | 0.299 | 0.798  | 0.306 |          |       |        |       |       |  |
|         |                       |               |            |                     |             | Right Touch | 6           | 2437          | 18.3     | 18.2          |          |                         | 0.537      |       |        |       |          |       |        |       |       |  |
|         |                       |               |            |                     | Right Tilt  | 6           | 2437        | 18.3          | 18.2     |               |          | 0.819                   |            |       |        |       |          |       |        |       |       |  |
|         |                       |               |            |                     | Left Touch  | 6           | 2437        |               |          | 22.0          | 22.0     | 0.240                   |            |       |        |       | 0.217    | 0.103 | 0.217  | 0.103 |       |  |
|         |                       |               |            |                     | Left Tilt   | 6           | 2437        |               |          | 22.0          | 22.0     | 0.070                   |            |       |        |       |          |       |        |       |       |  |
|         |                       |               |            |                     | Right Touch | 6           | 2437        |               |          | 22.0          | 22.0     | 0.096                   |            |       |        |       |          |       |        |       |       |  |
|         |                       | Right Tilt    | 6          | 2437                |             |             | 22.0        | 22.0          | 0.110    |               |          |                         |            |       |        |       |          |       |        |       |       |  |
|         |                       | 802.11g 20MHz | 0          | 2 Tx                | Left Touch  | 6           | 2437        | 18.3          | 18.3     | 21.5          | 21.5     | 1.470                   | 0.976      | 0.393 | 0.976  | 0.393 | 0.253    | 0.137 | 0.253  | 0.137 |       |  |
|         |                       |               |            |                     |             | 8           | 2447        | 18.3          | 18.3     | 21.5          | 21.5     | 1.260                   | 0.973      | 0.389 | 0.973  | 0.389 | 0.232    | 0.125 | 0.232  | 0.125 |       |  |
|         |                       |               |            |                     | Left Tilt   | 6           | 2437        | 18.3          | 18.3     | 21.5          | 21.5     | 0.894                   | 0.664      | 0.263 | 0.664  | 0.263 | -        | -     | -      | -     |       |  |
|         | Right Touch           |               |            |                     | 6           | 2437        | 18.3        | 18.3          | 21.5     | 21.5          | 0.630    |                         |            |       |        |       |          |       |        |       |       |  |
|         | Right Tilt            | 6             | 2437       | 18.3                | 18.3        | 21.5        | 21.5        | 0.851         | 0.519    | 0.207         | 0.519    | 0.207                   | -          | -     | -      | -     |          |       |        |       |       |  |
|         | Body-worn & Hotspot   | 802.11b 20MHz | 5          | 1 Tx                | Rear        | 6           | 2437        | 18.8          | 18.8     |               |          | 1.030                   | 1.060      | 0.433 | 1.060  | 0.433 |          |       |        |       |       |  |
|         |                       |               |            |                     |             | 11          | 2462        | 18.8          | 18.8     |               |          | 1.470                   | 0.964      | 0.418 | 0.964  | 0.418 |          |       |        |       |       |  |
|         |                       |               |            |                     | Front       | 6           | 2437        | 18.8          | 18.8     |               |          | 0.785                   |            |       |        |       |          |       |        |       |       |  |
|         |                       |               |            |                     |             | Edge 1      | 6           | 2437          | 18.8     | 18.8          |          |                         | 0.961      | 0.620 | 0.225  | 0.620 | 0.225    |       |        |       |       |  |
|         |                       |               |            |                     | Edge 2      | 6           | 2437        | 18.8          | 18.8     |               |          | 1.230                   | 0.988      | 0.394 | 0.988  | 0.394 |          |       |        |       |       |  |
|         |                       |               |            |                     |             | 11          | 2462        | 18.8          | 18.8     |               |          | 1.150                   | 1.130      | 0.461 | 1.130  | 0.461 |          |       |        |       |       |  |
|         |                       |               |            |                     | Edge 4      | 6           | 2437        | 18.8          | 18.8     |               |          | 0.446                   |            |       |        |       |          |       |        |       |       |  |
|         |                       |               |            |                     | Rear        | 6           | 2437        |               |          | 20.8          | 20.8     | 1.490                   |            |       |        |       | 1.100    | 0.529 | 1.100  | 0.529 |       |  |
|         |                       |               |            |                     |             | 11          | 2462        |               |          | 20.8          | 20.8     | 1.250                   |            |       |        |       | 1.020    | 0.467 | 1.020  | 0.467 |       |  |
|         |                       |               |            |                     | Front       | 6           | 2437        |               |          | 20.8          | 20.8     | 0.455                   |            |       |        |       |          |       |        |       |       |  |
|         |                       |               |            |                     | Edge 2      | 6           | 2437        |               |          | 20.8          | 20.8     | 0.019                   |            |       |        |       |          |       |        |       |       |  |
|         |                       |               |            |                     | Edge 3      | 6           | 2437        |               |          | 20.8          | 20.8     | 0.081                   |            |       |        |       |          |       |        |       |       |  |
|         |                       | Edge 4        | 6          | 2437                |             |             | 20.8        | 20.8          | 0.604    |               |          |                         |            | 0.503 | 0.238  | 0.503 | 0.238    |       |        |       |       |  |
|         |                       | 802.11g 20MHz | 5          | 2 Tx                | Rear        | 6           | 2437        | 18.8          | 18.8     | 20.8          | 20.8     | 1.860                   | 0.811      | 0.343 | 0.811  | 0.343 | 0.674    | 0.292 | 0.674  | 0.292 |       |  |
|         |                       |               |            |                     |             | 8           | 2447        | 18.8          | 18.8     | 20.8          | 20.8     | 1.490                   | 0.744      | 0.291 | 0.744  | 0.291 | 0.710    | 0.312 | 0.710  | 0.312 |       |  |
|         |                       |               |            |                     | Front       | 6           | 2437        | 18.8          | 18.8     | 20.8          | 20.8     | 0.855                   | 0.411      | 0.185 | 0.411  | 0.185 | 0.324    | 0.141 | 0.324  | 0.141 |       |  |
|         |                       |               |            |                     | Edge 1      | 6           | 2437        | 18.8          | 18.8     | 20.8          | 20.8     | 1.340                   | 1.000      | 0.351 | 1.000  | 0.351 |          |       |        |       |       |  |
|         |                       |               |            |                     |             | 8           | 2447        | 18.8          | 18.8     | 20.8          | 20.8     | 0.983                   | 0.835      | 0.293 | 0.835  | 0.293 |          |       |        |       |       |  |
|         |                       |               |            |                     | Edge 2      | 6           | 2437        | 18.8          | 18.8     | 20.8          | 20.8     | 0.501                   |            |       |        |       |          |       |        |       |       |  |
|         |                       |               |            |                     | Edge 3      | 6           | 2437        | 18.8          | 18.8     | 20.8          | 20.8     | 0.186                   |            |       |        |       |          |       |        |       |       |  |
|         |                       |               |            |                     | Edge 4      | 6           | 2437        | 18.8          | 18.8     | 20.8          | 20.8     | 0.530                   |            |       |        |       |          |       |        |       |       |  |
|         |                       |               |            |                     |             |             |             |               |          |               |          |                         |            |       |        |       |          |       |        |       |       |  |
|         |                       |               |            |                     |             |             |             |               |          |               |          |                         |            |       |        |       |          |       |        |       |       |  |
|         |                       |               |            |                     |             |             |             |               |          |               |          |                         |            |       |        |       |          |       |        |       |       |  |

## Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

## 10.24. Wi-Fi (U-NII-1 and U-NII-2A Band)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed for each power configuration for Wi-Fi: Cell On and Cell Off and for each Antenna – UAT 2 and LAT 3 –using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### Cell On

| Band    | RF Exposure Condition | Mode           | Dist. (mm) | No. of Transmitters | Position    | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | Area Scan Measured Peak | SAR (W/kg) |       |        |       |          |       |        |       | Plots |
|---------|-----------------------|----------------|------------|---------------------|-------------|-------|-------------|---------------|----------|---------------|----------|-------------------------|------------|-------|--------|-------|----------|-------|--------|-------|-------|
|         |                       |                |            |                     |             |       |             | UAT 2         |          | LAT 3         |          |                         | UAT 2      |       |        |       | LAT 3    |       |        |       |       |
|         |                       |                |            |                     |             |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured |                         | Measured   |       | Scaled |       | Measured |       | Scaled |       |       |
|         |                       |                |            |                     |             |       |             |               |          |               |          |                         | 1-g        | 10-g  | 1-g    | 10-g  | 1-g      | 10-g  | 1-g    | 10-g  |       |
| 5.3 GHz | Head                  | 802.11ac VHT80 | 0          | 1 Tx                | Left Touch  | 58    | 5290        | 15.0          | 15.0     |               |          | 0.155                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Left Tilt   | 58    | 5290        | 15.0          | 15.0     |               |          | 0.182                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 58    | 5290        | 15.0          | 15.0     |               |          | 0.409                   | 0.184      | 0.053 | 0.184  | 0.053 |          |       |        |       |       |
|         |                       |                |            |                     | Right Tilt  | 58    | 5290        | 15.0          | 15.0     |               |          | 0.320                   |            |       |        |       |          |       |        |       |       |
| 5.3 GHz |                       | 802.11a        | 0          | 1 Tx                | Left Touch  | 60    | 5300        |               |          | 21.0          | 21.0     | 0.081                   |            |       |        |       | 0.041    | 0.020 | 0.041  | 0.020 |       |
|         |                       |                |            |                     | Left Tilt   | 60    | 5300        |               |          | 21.0          | 21.0     | 0.042                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 60    | 5300        |               |          | 21.0          | 21.0     | 0.072                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Tilt  | 60    | 5300        |               |          | 21.0          | 21.0     | 0.030                   |            |       |        |       |          |       |        |       |       |
| 5.3 GHz |                       | 802.11n HT40   | 0          | 2 Tx                | Left Touch  | 54    | 5270        | 15.0          | 15.0     | 19.5          | 19.5     | 0.178                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Left Tilt   | 54    | 5270        | 15.0          | 15.0     | 19.5          | 19.5     | 0.166                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 54    | 5270        | 15.0          | 15.0     | 19.5          | 19.5     | 0.335                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Tilt  | 54    | 5270        | 15.0          | 15.0     | 19.5          | 19.5     | 0.378                   | 0.199      | 0.069 | 0.199  | 0.069 | -        | -     | -      | -     |       |
| 5.3 GHz | Body-worn & Hotspot   | 802.11ac VHT80 | 5          | 1 Tx                | Rear        | 58    | 5290        | 11.0          | 11.0     |               |          | 0.868                   | 0.400      | 0.101 | 0.400  | 0.101 |          |       |        |       |       |
|         |                       |                |            |                     | Front       | 58    | 5290        | 11.0          | 11.0     |               |          | 0.075                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 1      | 58    | 5290        | 11.0          | 11.0     |               |          | 0.078                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 58    | 5290        | 11.0          | 11.0     |               |          | 0.026                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 58    | 5290        | 11.0          | 11.0     |               |          | 0.142                   | 0.072      | 0.028 | 0.072  | 0.028 |          |       |        |       |       |
| 5.3 GHz |                       | 802.11ac VHT80 | 5          | 1 Tx                | Rear        | 58    | 5290        |               |          | 11.3          | 11.3     | 0.422                   |            |       |        |       | 0.213    | 0.065 | 0.213  | 0.065 |       |
|         |                       |                |            |                     | Front       | 58    | 5290        |               |          | 11.3          | 11.3     | 0.078                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 58    | 5290        |               |          | 11.3          | 11.3     | 0.025                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 3      | 58    | 5290        |               |          | 11.3          | 11.3     | 0.078                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 58    | 5290        |               |          | 11.3          | 11.3     | 0.053                   |            |       |        |       |          |       |        |       |       |
| 5.3 GHz |                       | 802.11ac VHT80 | 5          | 2 Tx                | Rear        | 58    | 5290        | 11.0          | 11.0     | 11.3          | 11.3     | 0.475                   | 0.199      | 0.050 | 0.199  | 0.050 | 0.084    | 0.022 | 0.084  | 0.022 |       |
|         |                       |                |            |                     | Front       | 58    | 5290        | 11.0          | 11.0     | 11.3          | 11.3     | 0.039                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 1      | 58    | 5290        | 11.0          | 11.0     | 11.3          | 11.3     | 0.036                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 58    | 5290        | 11.0          | 11.0     | 11.3          | 11.3     | 0.024                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 3      | 58    | 5290        | 11.0          | 11.0     | 11.3          | 11.3     | 0.039                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 58    | 5290        | 11.0          | 11.0     | 11.3          | 11.3     | 0.060                   |            |       |        |       |          |       |        |       |       |

### Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

## Cell Off

| Band    | RF Exposure Condition | Mode           | Dist. (mm) | No. of Transmitters | Position    | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | Area Scan Measured Peak | SAR (W/kg) |       |        |       |          |       |        |       | Plots |
|---------|-----------------------|----------------|------------|---------------------|-------------|-------|-------------|---------------|----------|---------------|----------|-------------------------|------------|-------|--------|-------|----------|-------|--------|-------|-------|
|         |                       |                |            |                     |             |       |             | UAT 2         |          | LAT 3         |          |                         | UAT 2      |       |        |       | LAT 3    |       |        |       |       |
|         |                       |                |            |                     |             |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured |                         | Measured   |       | Scaled |       | Measured |       | Scaled |       |       |
|         |                       |                |            |                     |             |       |             |               |          |               |          |                         | 1-g        | 10-g  | 1-g    | 10-g  | 1-g      | 10-g  | 1-g    | 10-g  |       |
| 5.3 GHz | Head                  | 802.11a        | 0          | 1 Tx                | Left Touch  | 60    | 5300        | 21.0          | 21.0     |               |          | 0.319                   |            |       |        |       |          |       |        | 43    |       |
|         |                       |                |            |                     | Left Tilt   | 60    | 5300        | 21.0          | 21.0     |               |          | 0.395                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 60    | 5300        | 21.0          | 21.0     |               |          | 1.210                   | 0.618      | 0.205 | 0.618  | 0.205 |          |       |        |       |       |
|         |                       |                |            |                     | Right Tilt  | 60    | 5300        | 21.0          | 21.0     |               |          | 1.160                   | 0.587      | 0.187 | 0.587  | 0.187 |          |       |        |       |       |
| 5.3 GHz |                       | 802.11a        | 0          | 1 Tx                | Left Touch  | 60    | 5300        |               |          | 21.0          | 21.0     | 0.081                   |            |       |        |       | 0.041    | 0.020 | 0.041  | 0.020 |       |
|         |                       |                |            |                     | Left Tilt   | 60    | 5300        |               |          | 21.0          | 21.0     | 0.042                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 60    | 5300        |               |          | 21.0          | 21.0     | 0.072                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Tilt  | 60    | 5300        |               |          | 21.0          | 21.0     | 0.030                   |            |       |        |       |          |       |        |       |       |
| 5.3 GHz |                       | 802.11n HT40   | 0          | 2 Tx                | Left Touch  | 54    | 5270        | 19.5          | 19.5     | 19.5          | 19.5     | 0.407                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Left Tilt   | 54    | 5270        | 19.5          | 19.5     | 19.5          | 19.5     | 0.386                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 54    | 5270        | 19.5          | 19.5     | 19.5          | 19.5     | 0.772                   | 0.407      | 0.145 | 0.407  | 0.145 | -        | -     | -      | -     |       |
|         |                       |                |            |                     | Right Tilt  | 54    | 5270        | 19.5          | 19.5     | 19.5          | 19.5     | 0.737                   | 0.389      | 0.131 | 0.389  | 0.131 | -        | -     | -      | -     |       |
| 5.3 GHz | Body-worn & Hotspot   | 802.11ac VHT80 | 5          | 1 Tx                | Rear        | 58    | 5290        | 15.3          | 15.3     |               |          | 1.930                   | 1.160      | 0.307 | 1.160  | 0.307 |          |       |        |       | 44    |
|         |                       |                |            |                     | Front       | 58    | 5290        | 15.3          | 15.3     |               |          | 0.140                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 1      | 58    | 5290        | 15.3          | 15.3     |               |          | 0.158                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 58    | 5290        | 15.3          | 15.3     |               |          | 0.033                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 58    | 5290        | 15.3          | 15.3     |               |          | 0.301                   | 0.145      | 0.048 | 0.145  | 0.048 |          |       |        |       |       |
| 5.3 GHz |                       | 802.11n HT40   | 5          | 1 Tx                | Rear        | 54    | 5270        |               |          | 18.0          | 18.0     | 1.810                   |            |       |        |       | 1.120    | 0.324 | 1.120  | 0.324 |       |
|         |                       |                |            |                     |             | 62    | 5310        |               |          | 18.0          | 18.0     | 1.970                   |            |       |        |       | 1.160    | 0.342 | 1.160  | 0.342 |       |
|         |                       |                |            |                     | Front       | 62    | 5310        |               |          | 18.0          | 18.0     | 0.243                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 62    | 5310        |               |          | 18.0          | 18.0     | 0.057                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 3      | 62    | 5310        |               |          | 18.0          | 18.0     | 0.346                   |            |       |        |       | 0.198    | 0.078 | 0.198  | 0.078 |       |
| 5.3 GHz |                       | 802.11n HT40   | 5          | 2 Tx                | Edge 4      | 62    | 5310        |               |          | 18.0          | 18.0     | 0.216                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Rear        | 54    | 5270        | 15.3          | 15.3     | 18.0          | 17.9     | 2.280                   | 1.140      | 0.304 | 1.140  | 0.304 | 1.030    | 0.286 | 1.054  | 0.293 |       |
|         |                       |                |            |                     |             | 62    | 5310        | 15.3          | 15.3     | 17.0          | 17.0     | 2.840                   | 1.150      | 0.311 | 1.150  | 0.311 | 0.736    | 0.210 | 0.736  | 0.210 |       |
|         |                       |                |            |                     | Front       | 54    | 5270        | 15.3          | 15.3     | 18.0          | 17.9     | 0.130                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 1      | 54    | 5270        | 15.3          | 15.3     | 18.0          | 17.9     | 0.120                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 54    | 5270        | 15.3          | 15.3     | 18.0          | 17.9     | 0.049                   |            |       |        |       |          |       |        |       |       |
| 5.3 GHz |                       | 802.11n HT40   | 5          | 2 Tx                | Edge 3      | 54    | 5270        | 15.3          | 15.3     | 18.0          | 17.9     | 0.254                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 54    | 5270        | 15.3          | 15.3     | 18.0          | 17.9     | 0.321                   | 0.175      | 0.068 | 0.175  | 0.068 | 0.085    | 0.027 | 0.087  | 0.028 |       |
|         |                       |                |            |                     |             |       |             |               |          |               |          |                         |            |       |        |       |          |       |        |       |       |

## Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

## 10.25. Wi-Fi (U-NII-2C Band)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed for each power configuration for Wi-Fi: Cell On and Cell Off and for each Antenna – UAT 2 and LAT 3 –using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### Cell On

| Band    | RF Exposure Condition | Mode           | Dist. (mm) | No. of Transmitters | Position    | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | Area Scan Measured Peak | SAR (W/kg) |       |        |       |          |       |        |       | Plots |
|---------|-----------------------|----------------|------------|---------------------|-------------|-------|-------------|---------------|----------|---------------|----------|-------------------------|------------|-------|--------|-------|----------|-------|--------|-------|-------|
|         |                       |                |            |                     |             |       |             | UAT 2         |          | LAT 3         |          |                         | UAT 2      |       |        |       | LAT 3    |       |        |       |       |
|         |                       |                |            |                     |             |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured |                         | Measured   |       | Scaled |       | Measured |       | Scaled |       |       |
|         |                       |                |            |                     |             |       |             |               |          |               |          |                         | 1-g        | 10-g  | 1-g    | 10-g  | 1-g      | 10-g  | 1-g    | 10-g  |       |
| 5.5 GHz | Head                  | 802.11ac VHT80 | 0          | 1 Tx                | Left Touch  | 122   | 5610        | 16.0          | 16.0     |               |          | 0.133                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Left Tilt   | 122   | 5610        | 16.0          | 16.0     |               |          | 0.150                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 122   | 5610        | 16.0          | 16.0     |               |          | 0.275                   | 0.176      | 0.054 | 0.176  | 0.054 |          |       |        |       |       |
|         |                       |                |            |                     | Right Tilt  | 122   | 5610        | 16.0          | 16.0     |               |          | 0.192                   |            |       |        |       |          |       |        |       |       |
|         |                       | 802.11a        | 0          | 1 Tx                | Left Touch  | 120   | 5600        |               |          | 21.0          | 21.0     | 0.038                   |            |       |        |       | 0.031    | 0.013 | 0.031  | 0.013 |       |
|         |                       |                |            |                     | Left Tilt   | 120   | 5600        |               |          | 21.0          | 21.0     | 0.016                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 120   | 5600        |               |          | 21.0          | 21.0     | 0.027                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Tilt  | 120   | 5600        |               |          | 21.0          | 21.0     | 0.013                   |            |       |        |       |          |       |        |       |       |
|         |                       | 802.11ac VHT80 | 0          | 2 Tx                | Left Touch  | 122   | 5610        | 16.0          | 16.0     | 19.5          | 19.5     | 0.122                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Left Tilt   | 122   | 5610        | 16.0          | 16.0     | 19.5          | 19.5     | 0.141                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 122   | 5610        | 16.0          | 16.0     | 19.5          | 19.5     | 0.170                   | 0.104      | 0.029 | 0.104  | 0.029 | -        | -     | -      | -     |       |
|         |                       |                |            |                     | Right Tilt  | 122   | 5610        | 16.0          | 16.0     | 19.5          | 19.5     | 0.123                   |            |       |        |       |          |       |        |       |       |
| 5.5 GHz | Body-worn & Hotspot   | 802.11ac VHT80 | 5          | 1 Tx                | Rear        | 122   | 5610        | 10.5          | 10.5     |               |          | 0.649                   | 0.359      | 0.090 | 0.359  | 0.090 |          |       |        |       |       |
|         |                       |                |            |                     | Front       | 122   | 5610        | 10.5          | 10.5     |               |          | 0.059                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 1      | 122   | 5610        | 10.5          | 10.5     |               |          | 0.074                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 122   | 5610        | 10.5          | 10.5     |               |          | 0.018                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 122   | 5610        | 10.5          | 10.5     |               |          | 0.110                   | 0.053      | 0.017 | 0.053  | 0.017 |          |       |        |       |       |
|         |                       | 802.11ac VHT80 | 5          | 1 Tx                | Rear        | 122   | 5610        |               |          | 12.5          | 12.5     | 0.291                   |            |       |        |       | 0.196    | 0.052 | 0.196  | 0.052 |       |
|         |                       |                |            |                     | Front       | 122   | 5610        |               |          | 12.5          | 12.5     | 0.094                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 122   | 5610        |               |          | 12.5          | 12.5     | 0.015                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 3      | 122   | 5610        |               |          | 12.5          | 12.5     | 0.097                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 122   | 5610        |               |          | 12.5          | 12.5     | 0.021                   |            |       |        |       |          |       |        |       |       |
|         |                       | 802.11ac VHT80 | 5          | 2 Tx                | Rear        | 122   | 5610        | 10.5          | 10.3     | 12.5          | 12.3     | 0.844                   | 0.360      | 0.087 | 0.377  | 0.091 | 0.143    | 0.040 | 0.150  | 0.042 |       |
|         |                       |                |            |                     | Front       | 122   | 5610        | 10.5          | 10.3     | 12.5          | 12.3     | 0.038                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 1      | 122   | 5610        | 10.5          | 10.3     | 12.5          | 12.3     | 0.045                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 122   | 5610        | 10.5          | 10.3     | 12.5          | 12.3     | 0.016                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 3      | 122   | 5610        | 10.5          | 10.3     | 12.5          | 12.3     | 0.062                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 122   | 5610        | 10.5          | 10.3     | 12.5          | 12.3     | 0.079                   | 0.044      | 0.015 | 0.046  | 0.016 | -        | -     | -      | -     |       |

### Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

## Cell Off

| Band       | RF Exposure Condition | Mode           | Dist. (mm) | No. of Transmitters | Position    | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | Area Scan Measured Peak | SAR (W/kg) |       |        |       |          |       |        |       | Plots |
|------------|-----------------------|----------------|------------|---------------------|-------------|-------|-------------|---------------|----------|---------------|----------|-------------------------|------------|-------|--------|-------|----------|-------|--------|-------|-------|
|            |                       |                |            |                     |             |       |             | UAT 2         |          | LAT 3         |          |                         | UAT 2      |       |        |       | LAT 3    |       |        |       |       |
|            |                       |                |            |                     |             |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured |                         | Measured   |       | Scaled |       | Measured |       | Scaled |       |       |
|            |                       |                |            |                     |             |       |             |               |          |               |          |                         | 1-g        | 10-g  | 1-g    | 10-g  | 1-g      | 10-g  | 1-g    | 10-g  |       |
| 5.5 GHz    | Head                  | 802.11a        | 0          | 1 Tx                | Left Touch  | 120   | 5600        | 21.0          | 21.0     |               |          | 0.387                   |            |       |        |       |          |       |        |       |       |
|            |                       |                |            |                     | Left Tilt   | 120   | 5600        | 21.0          | 21.0     |               |          | 0.388                   |            |       |        |       |          |       |        |       |       |
|            |                       |                |            |                     | Right Touch | 120   | 5600        | 21.0          | 21.0     |               |          | 0.619                   | 0.387      | 0.127 | 0.387  | 0.127 |          |       |        |       |       |
|            |                       |                |            |                     | Right Tilt  | 104   | 5520        | 21.0          | 21.0     |               |          | 0.727                   | 0.451      | 0.138 | 0.451  | 0.138 |          |       |        |       | 45    |
|            |                       |                | 120        | 5600                | 21.0        | 21.0  |             |               | 0.944    | 0.443         | 0.131    | 0.443                   | 0.131      |       |        |       |          |       |        |       |       |
|            |                       | 802.11a        | 0          | 1 Tx                | Left Touch  | 120   | 5600        |               |          | 21.0          | 21.0     | 0.038                   |            |       |        |       | 0.031    | 0.013 | 0.031  | 0.013 |       |
|            |                       |                |            |                     | Left Tilt   | 120   | 5600        |               |          | 21.0          | 21.0     | 0.016                   |            |       |        |       |          |       |        |       |       |
|            |                       |                |            |                     | Right Touch | 120   | 5600        |               |          | 21.0          | 21.0     | 0.027                   |            |       |        |       |          |       |        |       |       |
|            |                       |                |            |                     | Right Tilt  | 120   | 5600        |               |          | 21.0          | 21.0     | 0.013                   |            |       |        |       |          |       |        |       |       |
|            |                       | 802.11ac VHT80 | 0          | 2 Tx                | Left Touch  | 122   | 5610        | 19.5          | 19.5     | 19.5          | 19.5     | 0.283                   |            |       |        |       |          |       |        |       |       |
|            |                       |                |            |                     | Left Tilt   | 122   | 5610        | 19.5          | 19.5     | 19.5          | 19.5     | 0.265                   |            |       |        |       |          |       |        |       |       |
|            |                       |                |            |                     | Right Touch | 122   | 5610        | 19.5          | 19.5     | 19.5          | 19.5     | 0.728                   | 0.403      | 0.129 | 0.403  | 0.129 | -        | -     | -      | -     |       |
| Right Tilt | 122                   |                |            |                     | 5610        | 19.5  | 19.5        | 19.5          | 19.5     | 0.698         | 0.434    | 0.133                   | 0.434      | 0.133 | -      | -     | -        | -     |        |       |       |
| 5.5 GHz    | Body-worn & Hotspot   | 802.11ac VHT80 | 5          | 1 Tx                | Rear        | 122   | 5610        | 14.8          | 14.8     |               |          | 1.850                   | 1.140      | 0.296 | 1.140  | 0.296 |          |       |        |       |       |
|            |                       |                |            |                     |             | 138   | 5690        | 14.8          | 14.8     |               |          | 1.680                   | 0.890      | 0.232 | 0.890  | 0.232 |          |       |        |       |       |
|            |                       |                |            |                     | Front       | 122   | 5610        | 14.8          | 14.8     |               |          | 0.166                   |            |       |        |       |          |       |        |       |       |
|            |                       |                |            |                     | Edge 1      | 122   | 5610        | 14.8          | 14.8     |               |          | 0.224                   |            |       |        |       |          |       |        |       |       |
|            |                       |                |            |                     | Edge 2      | 122   | 5610        | 14.8          | 14.8     |               |          | 0.019                   |            |       |        |       |          |       |        |       |       |
|            |                       |                | 122        | 5610                | 14.8        | 14.8  |             |               | 0.303    | 0.167         | 0.055    | 0.167                   | 0.055      |       |        |       |          |       |        |       |       |
|            |                       | 802.11ac VHT80 | 5          | 1 Tx                | Rear        | 122   | 5610        |               |          | 19.3          | 19.3     | 1.640                   |            |       |        |       | 1.090    | 0.318 | 1.090  | 0.318 |       |
|            |                       |                |            |                     |             | 138   | 5690        |               |          | 19.3          | 19.3     | 1.670                   |            |       |        |       | 1.190    | 0.323 | 1.190  | 0.323 | 46    |
|            |                       |                |            |                     | Front       | 122   | 5610        |               |          | 19.3          | 19.3     | 0.385                   |            |       |        |       |          |       |        |       |       |
|            |                       |                |            |                     | Edge 2      | 122   | 5610        |               |          | 19.3          | 19.3     | 0.008                   |            |       |        |       |          |       |        |       |       |
|            |                       |                |            |                     | Edge 3      | 122   | 5610        |               |          | 19.3          | 19.3     | 0.447                   |            |       |        |       | 0.220    | 0.075 | 0.220  | 0.075 |       |
|            |                       |                | 122        | 5610                |             |       | 19.3        | 19.3          | 0.122    |               |          |                         |            |       |        |       |          |       |        |       |       |
|            |                       | 802.11ac VHT80 | 5          | 2 Tx                | Rear        | 122   | 5610        | 14.8          | 14.8     | 19.3          | 19.3     | 1.690                   | 0.862      | 0.216 | 0.862  | 0.216 | 0.551    | 0.146 | 0.551  | 0.146 |       |
|            |                       |                |            |                     |             | 138   | 5690        | 14.8          | 14.8     | 19.3          | 19.3     | 1.950                   | 1.170      | 0.302 | 1.170  | 0.302 | 1.170    | 0.334 | 1.170  | 0.334 |       |
|            |                       |                |            |                     | Front       | 122   | 5610        | 14.8          | 14.8     | 19.3          | 19.3     | 0.177                   |            |       |        |       |          |       |        |       |       |
|            |                       |                |            |                     | Edge 1      | 122   | 5610        | 14.8          | 14.8     | 19.3          | 19.3     | 0.098                   |            |       |        |       |          |       |        |       |       |
| Edge 2     | 122                   |                |            |                     | 5610        | 14.8  | 14.8        | 19.3          | 19.3     | 0.013         |          |                         |            |       |        |       |          |       |        |       |       |
| Edge 3     | 122                   |                |            |                     | 5610        | 14.8  | 14.8        | 19.3          | 19.3     | 0.203         | -        | -                       | -          | -     | 0.099  | 0.032 | 0.099    | 0.032 |        |       |       |
| Edge 4     | 122                   |                |            |                     | 5610        | 14.8  | 14.8        | 19.3          | 19.3     | 0.173         |          |                         |            |       |        |       |          |       |        |       |       |

## Notes:

For SAR results with "-", there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

## 10.26. Wi-Fi (U-NII-3 Band)

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed for each power configuration for Wi-Fi: Cell On and Cell Off and for each Antenna – UAT 2 and LAT 3 –using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### Cell On

| Band    | RF Exposure Condition | Mode           | Dist. (mm) | No. of Transmitters | Position    | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | Area Scan Measured Peak | SAR (W/kg) |       |        |       |          |       |        |       | Plots |
|---------|-----------------------|----------------|------------|---------------------|-------------|-------|-------------|---------------|----------|---------------|----------|-------------------------|------------|-------|--------|-------|----------|-------|--------|-------|-------|
|         |                       |                |            |                     |             |       |             | UAT 2         |          | LAT 3         |          |                         | UAT 2      |       |        |       | LAT 3    |       |        |       |       |
|         |                       |                |            |                     |             |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured |                         | Measured   |       | Scaled |       | Measured |       | Scaled |       |       |
|         |                       |                |            |                     |             |       |             |               |          |               |          |                         | 1-g        | 10-g  | 1-g    | 10-g  | 1-g      | 10-g  | 1-g    | 10-g  |       |
| 5.8 GHz | Head                  | 802.11ac VHT80 | 0          | 1 Tx                | Left Touch  | 155   | 5775        | 16.0          | 16.0     |               |          | 0.184                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Left Tilt   | 155   | 5775        | 16.0          | 16.0     |               |          | 0.154                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 155   | 5775        | 16.0          | 16.0     |               |          | 0.262                   | 0.135      | 0.043 | 0.135  | 0.043 |          |       |        |       |       |
|         |                       |                |            |                     | Right Tilt  | 155   | 5775        | 16.0          | 16.0     |               |          | 0.258                   |            |       |        |       |          |       |        |       |       |
|         |                       | 802.11a        | 0          | 1 Tx                | Left Touch  | 157   | 5785        |               |          | 21.5          | 21.5     | 0.063                   |            |       |        |       | 0.029    | 0.010 | 0.029  | 0.010 |       |
|         |                       |                |            |                     | Left Tilt   | 157   | 5785        |               |          | 21.5          | 21.5     | 0.030                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 157   | 5785        |               |          | 21.5          | 21.5     | 0.022                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Tilt  | 157   | 5785        |               |          | 21.5          | 21.5     | 0.031                   |            |       |        |       |          |       |        |       |       |
|         |                       | 802.11a        | 0          | 2 Tx                | Left Touch  | 157   | 5785        | 16.0          | 16.0     | 21.5          | 21.5     | 0.117                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Left Tilt   | 157   | 5785        | 16.0          | 16.0     | 21.5          | 21.5     | 0.180                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 157   | 5785        | 16.0          | 16.0     | 21.5          | 21.5     | 0.248                   | 0.153      | 0.047 | 0.153  | 0.047 | -        | -     | -      | -     |       |
|         |                       |                |            |                     | Right Tilt  | 157   | 5785        | 16.0          | 16.0     | 21.5          | 21.5     | 0.219                   |            |       |        |       |          |       |        |       |       |
| 5.8 GHz | Body-worn & Hotspot   | 802.11ac VHT80 | 5          | 1 Tx                | Rear        | 155   | 5775        | 10.5          | 10.5     |               |          | 0.741                   | 0.361      | 0.097 | 0.361  | 0.097 |          |       |        |       |       |
|         |                       |                |            |                     | Front       | 155   | 5775        | 10.5          | 10.5     |               |          | 0.051                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 1      | 155   | 5775        | 10.5          | 10.5     |               |          | 0.100                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 155   | 5775        | 10.5          | 10.5     |               |          | 0.018                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 155   | 5775        | 10.5          | 10.5     |               |          | 0.148                   |            |       |        |       |          |       |        |       |       |
|         |                       | 802.11ac VHT80 | 5          | 1 Tx                | Rear        | 155   | 5775        |               |          | 12.0          | 12.0     | 0.387                   |            |       |        |       | 0.196    | 0.049 | 0.196  | 0.049 |       |
|         |                       |                |            |                     | Front       | 155   | 5775        |               |          | 12.0          | 12.0     | 0.040                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 155   | 5775        |               |          | 12.0          | 12.0     | 0.021                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 3      | 155   | 5775        |               |          | 12.0          | 12.0     | 0.079                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 155   | 5775        |               |          | 12.0          | 12.0     | 0.028                   |            |       |        |       |          |       |        |       |       |
|         |                       | 802.11ac VHT80 | 5          | 2 Tx                | Rear        | 155   | 5775        | 10.5          | 10.5     | 12.0          | 12.0     | 0.598                   | 0.377      | 0.093 | 0.377  | 0.093 | 0.170    | 0.044 | 0.170  | 0.044 |       |
|         |                       |                |            |                     | Front       | 155   | 5775        | 10.5          | 10.5     | 12.0          | 12.0     | 0.044                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 1      | 155   | 5775        | 10.5          | 10.5     | 12.0          | 12.0     | 0.079                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 155   | 5775        | 10.5          | 10.5     | 12.0          | 12.0     | 0.019                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 3      | 155   | 5775        | 10.5          | 10.5     | 12.0          | 12.0     | 0.082                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 155   | 5775        | 10.5          | 10.5     | 12.0          | 12.0     | 0.093                   |            |       |        |       |          |       |        |       |       |

### Notes:

For SAR results with “-“, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

## Cell Off

| Band    | RF Exposure Condition | Mode           | Dist. (mm) | No. of Transmitters | Position    | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | Area Scan Measured Peak | SAR (W/kg) |       |        |       |          |       |        |       | Plots |
|---------|-----------------------|----------------|------------|---------------------|-------------|-------|-------------|---------------|----------|---------------|----------|-------------------------|------------|-------|--------|-------|----------|-------|--------|-------|-------|
|         |                       |                |            |                     |             |       |             | UAT 2         |          | LAT 3         |          |                         | UAT 2      |       |        |       | LAT 3    |       |        |       |       |
|         |                       |                |            |                     |             |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured |                         | Measured   |       | Scaled |       | Measured |       | Scaled |       |       |
|         |                       |                |            |                     |             |       |             |               |          |               |          |                         | 1-g        | 10-g  | 1-g    | 10-g  | 1-g      | 10-g  | 1-g    | 10-g  |       |
| 5.8 GHz | Head                  | 802.11a        | 0          | 1 Tx                | Left Touch  | 157   | 5785        | 21.0          | 20.1     |               |          | 0.364                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Left Tilt   | 157   | 5785        | 21.0          | 20.1     |               |          | 0.432                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 157   | 5785        | 21.0          | 20.1     |               |          | 0.791                   | 0.451      | 0.145 | 0.555  | 0.178 |          |       |        |       |       |
|         |                       |                |            |                     | Right Tilt  | 157   | 5785        | 21.0          | 20.1     |               |          | 0.754                   | 0.460      | 0.149 | 0.566  | 0.183 |          |       |        | 47    |       |
|         |                       | 802.11a        | 0          | 1 Tx                | Left Touch  | 157   | 5785        |               |          | 21.5          | 21.5     | 0.063                   |            |       |        |       | 0.029    | 0.010 | 0.029  | 0.010 |       |
|         |                       |                |            |                     | Left Tilt   | 157   | 5785        |               |          | 21.5          | 21.5     | 0.030                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 157   | 5785        |               |          | 21.5          | 21.5     | 0.022                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Tilt  | 157   | 5785        |               |          | 21.5          | 21.5     | 0.031                   |            |       |        |       |          |       |        |       |       |
|         |                       | 802.11a        | 0          | 2 Tx                | Left Touch  | 157   | 5785        | 21.0          | 21.0     | 21.5          | 21.5     | 0.244                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Left Tilt   | 157   | 5785        | 21.0          | 21.0     | 21.5          | 21.5     | 0.362                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Touch | 157   | 5785        | 21.0          | 21.0     | 21.5          | 21.5     | 0.342                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Right Tilt  | 157   | 5785        | 21.0          | 21.0     | 21.5          | 21.5     | 0.430                   | 0.239      | 0.084 | 0.239  | 0.084 | -        | -     | -      | -     |       |
| 5.8 GHz | Body-worn & Hotspot   | 802.11ac VHT80 | 5          | 1 Tx                | Rear        | 155   | 5775        | 14.8          | 14.6     |               |          | 1.740                   | 1.030      | 0.272 | 1.079  | 0.285 |          |       |        |       |       |
|         |                       |                |            |                     | Front       | 155   | 5775        | 14.8          | 14.6     |               |          | 0.104                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 1      | 155   | 5775        | 14.8          | 14.6     |               |          | 0.239                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 155   | 5775        | 14.8          | 14.6     |               |          | 0.041                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 155   | 5775        | 14.8          | 14.6     |               |          | 0.398                   | 0.250      | 0.084 | 0.262  | 0.088 |          |       |        |       |       |
|         |                       | 802.11ac VHT80 | 5          | 1 Tx                | Rear        | 155   | 5775        |               |          | 18.8          | 18.8     | 2.350                   |            |       |        |       | 1.080    | 0.319 | 1.080  | 0.319 |       |
|         |                       |                |            |                     | Front       | 155   | 5775        |               |          | 18.8          | 18.8     | 0.302                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 155   | 5775        |               |          | 18.8          | 18.8     | 0.057                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 3      | 155   | 5775        |               |          | 18.8          | 18.8     | 0.712                   |            |       |        |       | 0.380    | 0.140 | 0.380  | 0.140 |       |
|         |                       |                |            |                     | Edge 4      | 155   | 5775        |               |          | 18.8          | 18.8     | 0.163                   |            |       |        |       |          |       |        |       |       |
|         |                       | 802.11ac VHT80 | 5          | 2 Tx                | Rear        | 155   | 5775        | 14.8          | 14.8     | 18.8          | 18.8     | 2.640                   | 1.130      | 0.314 | 1.130  | 0.314 | 1.180    | 0.352 | 1.180  | 0.352 | 48    |
|         |                       |                |            |                     | Front       | 155   | 5775        | 14.8          | 14.8     | 18.8          | 18.8     | 0.264                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 1      | 155   | 5775        | 14.8          | 14.8     | 18.8          | 18.8     | 0.173                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 2      | 155   | 5775        | 14.8          | 14.8     | 18.8          | 18.8     | 0.018                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 3      | 155   | 5775        | 14.8          | 14.8     | 18.8          | 18.8     | 0.419                   |            |       |        |       |          |       |        |       |       |
|         |                       |                |            |                     | Edge 4      | 155   | 5775        | 14.8          | 14.8     | 18.8          | 18.8     | 0.423                   | 0.221      | 0.071 | 0.221  | 0.071 | 0.091    | 0.036 | 0.091  | 0.036 |       |

## Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

## 10.27. Wi-Fi Variant 2 Spot Check

SAR Testing (Spot Check) was performed based on the worst case SAR result from Sec. 10.23 – Sec. 10.26. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn & Hotspot exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### Wi-Fi (DTS Band)

| Vendor                          | Band    | RF Exposure Conditions | Mode    | Dist. (mm) | No. of Transmitters | Position   | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | SAR (W/kg) |       |        |       |          |      |        |      |
|---------------------------------|---------|------------------------|---------|------------|---------------------|------------|-------|-------------|---------------|----------|---------------|----------|------------|-------|--------|-------|----------|------|--------|------|
|                                 |         |                        |         |            |                     |            |       |             | UAT 1         |          | LAT 3         |          | UAT 1      |       |        |       | LAT 3    |      |        |      |
|                                 |         |                        |         |            |                     |            |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured | Measured   |       | Scaled |       | Measured |      | Scaled |      |
|                                 |         |                        |         |            |                     |            |       |             |               |          |               |          | 1-g        | 10-g  | 1-g    | 10-g  | 1-g      | 10-g | 1-g    | 10-g |
| Variant 1<br>Highest Report SAR | 2.4 GHz | Head                   | 802.11b | 5          | 1Tx                 | Left Touch | 11    | 2462        | 18.3          | 18.3     |               |          | 1.120      | 0.431 | 1.120  | 0.431 |          |      |        |      |
|                                 |         | Body                   | 802.11b | 5          | 1Tx                 | Edge 2     | 11    | 2462        | 18.8          | 18.8     |               |          | 1.130      | 0.461 | 1.130  | 0.461 |          |      |        |      |
| Variant 2<br>Spot Check         | 2.4 GHz | Head                   | 802.11b | 5          | 1Tx                 | Left Touch | 11    | 2462        | 18.3          | 18.3     |               |          | 0.976      | 0.377 | 0.976  | 0.377 |          |      |        |      |
|                                 |         | Body                   | 802.11b | 5          | 1Tx                 | Edge 2     | 11    | 2462        | 18.8          | 18.3     |               |          | 0.891      | 0.373 | 1.000  | 0.419 |          |      |        |      |

#### Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

### Wi-Fi (U-NII-1 and U-NII-2A Band)

| Vendor                          | Band          | RF Exposure Conditions | Mode         | Dist. (mm) | No. of Transmitters | Position    | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | SAR (W/kg) |       |        |       |          |       |        |       |
|---------------------------------|---------------|------------------------|--------------|------------|---------------------|-------------|-------|-------------|---------------|----------|---------------|----------|------------|-------|--------|-------|----------|-------|--------|-------|
|                                 |               |                        |              |            |                     |             |       |             | UAT 2         |          | LAT 3         |          | UAT 2      |       |        |       | LAT 3    |       |        |       |
|                                 |               |                        |              |            |                     |             |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured | Measured   |       | Scaled |       | Measured |       | Scaled |       |
|                                 |               |                        |              |            |                     |             |       |             |               |          |               |          | 1-g        | 10-g  | 1-g    | 10-g  | 1-g      | 10-g  | 1-g    | 10-g  |
| Variant 1<br>Highest Report SAR | 5.2 & 5.3 GHz | Head                   | 802.11a      | 0          | 1 Tx                | Right Touch | 60    | 5300        | 21.0          | 21.0     |               |          | 0.618      | 0.205 | 0.618  | 0.205 |          |       |        |       |
|                                 |               | Body-worn              | 802.11n HT40 | 5          | 1 Tx                | Rear        | 62    | 5310        |               |          | 18.0          | 18.0     |            |       |        |       | 1.160    | 0.342 | 1.160  | 0.342 |
| Variant 2<br>Spot Check         | 5.2 & 5.3 GHz | Head                   | 802.11a      | 0          | 1 Tx                | Right Touch | 60    | 5300        | 21.0          | 21.0     |               |          | 0.537      | 0.185 | 0.537  | 0.185 |          |       |        |       |
|                                 |               | Body-worn              | 802.11n HT40 | 5          | 1 Tx                | Rear        | 62    | 5310        |               |          | 18.0          | 18.0     |            |       |        |       | 1.110    | 0.313 | 1.110  | 0.313 |

#### Notes:

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

**Wi-Fi (U-NII-2C Band)**

| Vendor                       | Band    | RF Exposure Conditions | Mode     | Dist. (mm) | No. of Transmitters | Position   | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | SAR (W/kg) |       |        |       |          |      |        |      |
|------------------------------|---------|------------------------|----------|------------|---------------------|------------|-------|-------------|---------------|----------|---------------|----------|------------|-------|--------|-------|----------|------|--------|------|
|                              |         |                        |          |            |                     |            |       |             | UAT 2         |          | LAT 3         |          | UAT 2      |       |        |       | LAT 3    |      |        |      |
|                              |         |                        |          |            |                     |            |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured | Measured   |       | Scaled |       | Measured |      | Scaled |      |
|                              |         |                        |          |            |                     |            |       |             |               |          |               |          | 1-g        | 10-g  | 1-g    | 10-g  | 1-g      | 10-g | 1-g    | 10-g |
| Variant 1 Highest Report SAR | 5.5 GHz | Head                   | 802.11a  | 0          | 1 Tx                | Right Tilt | 104   | 5520        | 21.0          | 21.0     |               |          | 0.451      | 0.138 | 0.451  | 0.138 |          |      |        |      |
|                              |         | Body-worn              | 802.11ac | 5          | 1 Tx                | Rear       | 138   | 5690        | 19.3          | 19.3     |               |          | 1.190      | 0.323 | 1.190  | 0.323 |          |      |        |      |
| Variant 2 Spot Check         | 5.5 GHz | Head                   | 802.11a  | 0          | 1 Tx                | Right Tilt | 104   | 5520        | 21.0          | 21.0     |               |          | 0.364      | 0.120 | 0.364  | 0.120 |          |      |        |      |
|                              |         | Body-worn              | 802.11ac | 5          | 1 Tx                | Rear       | 138   | 5690        | 19.3          | 19.3     |               |          | 1.070      | 0.305 | 1.070  | 0.305 |          |      |        |      |

**Notes:**

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

**Wi-Fi (U-NII-3 Band)**

| Vendor                       | Band    | RF Exposure Conditions | Mode           | Dist. (mm) | No. of Transmitters | Position   | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | SAR (W/kg) |       |        |       |          |       |        |       |
|------------------------------|---------|------------------------|----------------|------------|---------------------|------------|-------|-------------|---------------|----------|---------------|----------|------------|-------|--------|-------|----------|-------|--------|-------|
|                              |         |                        |                |            |                     |            |       |             | UAT 2         |          | LAT 3         |          | UAT 2      |       |        |       | LAT 3    |       |        |       |
|                              |         |                        |                |            |                     |            |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured | Measured   |       | Scaled |       | Measured |       | Scaled |       |
|                              |         |                        |                |            |                     |            |       |             |               |          |               |          | 1-g        | 10-g  | 1-g    | 10-g  | 1-g      | 10-g  | 1-g    | 10-g  |
| Variant 1 Highest Report SAR | 5.8 GHz | Head                   | 802.11a        | 0          | 1 Tx                | Right Tilt | 157   | 5785        | 21.0          | 20.1     |               |          | 0.460      | 0.149 | 0.566  | 0.183 |          |       |        |       |
|                              |         | Body-worn              | 802.11ac VHT80 | 5          | 2 Tx                | Rear       | 155   | 5775        | 14.8          | 14.8     | 18.8          | 18.8     | 1.130      | 0.314 | 1.130  | 0.314 | 1.180    | 0.352 | 1.180  | 0.352 |
| Variant 2 Spot Check         | 5.8 GHz | Head                   | 802.11a        | 0          | 1 Tx                | Right Tilt | 157   | 5785        | 21.0          | 20.1     |               |          | 0.355      | 0.109 | 0.437  | 0.134 |          |       |        |       |
|                              |         | Body-worn              | 802.11ac VHT80 | 5          | 2 Tx                | Rear       | 155   | 5775        | 14.8          | 14.8     | 18.8          | 18.8     | 1.090      | 0.280 | 1.090  | 0.280 | 0.934    | 0.281 | 0.934  | 0.281 |

**Notes:**

For SAR results with “-”, there is no additional zoom scans due to secondary peak not being within 2dB of maximum peak.

## 10.28. Bluetooth

SAR Testing was performed based on the power measurement results from Sec. 9. Testing was performed for each power configuration for Bluetooth:  $P_{low}$ ,  $P_{High}$ ,  $P_{standalone}$  and for each Antenna – UAT 1 and LAT 3 – separately using the corresponding power modes: Mode A and Mode B. Mode A power was used when the DUT was tested on Head exposure condition. Mode B power was used when the DUT was tested on Body-worn exposure condition. Mode C power configuration is not used for distances less than 20cm from the body and therefore not applicable for SAR testing.

### UAT 1

#### $P_{low}$

| Frequency Band | RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|----------------|------------------------|------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                |                        |      |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| 2.4 GHz        | Head                   | GFSK | 0          | Left Touch    | 39    | 2441.0      | 10.0          | 10.0  | 0.145          | 0.145  | 0.060           | 0.060  |          |
|                |                        |      |            | Left Tilt     | 39    | 2441.0      | 10.0          | 10.0  | 0.108          | 0.108  | 0.045           | 0.045  |          |
|                |                        |      |            | Right Touch   | 39    | 2441.0      | 10.0          | 10.0  | 0.101          | 0.101  | 0.043           | 0.043  |          |
|                |                        |      |            | Right Tilt    | 39    | 2441.0      | 10.0          | 10.0  | 0.128          | 0.128  | 0.049           | 0.049  |          |
|                | Body-worn              | GFSK | 5          | Rear          | 39    | 2441.0      | 10.0          | 10.0  | 0.084          | 0.084  | 0.036           | 0.036  |          |
|                |                        |      |            | Front         | 39    | 2441.0      | 10.0          | 10.0  | 0.039          | 0.039  | 0.017           | 0.017  |          |

#### $P_{high}$

| Frequency Band | RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|----------------|------------------------|------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                |                        |      |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| 2.4 GHz        | Head                   | GFSK | 0          | Left Touch    | 39    | 2441.0      | 12.0          | 12.0  | 0.248          | 0.248  | 0.112           | 0.112  |          |
|                |                        |      |            | Left Tilt     | 39    | 2441.0      | 12.0          | 12.0  | 0.238          | 0.238  | 0.093           | 0.093  |          |
|                |                        |      |            | Right Touch   | 39    | 2441.0      | 12.0          | 12.0  | 0.166          | 0.166  | 0.070           | 0.070  |          |
|                |                        |      |            | Right Tilt    | 39    | 2441.0      | 12.0          | 12.0  | 0.203          | 0.203  | 0.080           | 0.080  |          |
|                | Body-worn              | GFSK | 5          | Rear          | 39    | 2441.0      | 13.5          | 13.5  | 0.188          | 0.188  | 0.069           | 0.069  |          |
|                |                        |      |            | Front         | 39    | 2441.0      | 13.5          | 13.5  | 0.088          | 0.088  | 0.042           | 0.042  |          |

#### $P_{standalone}$

| Frequency Band | RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|----------------|------------------------|------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                |                        |      |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| 2.4 GHz        | Head                   | GFSK | 0          | Left Touch    | 39    | 2441.0      | 14.5          | 14.5  | 0.432          | 0.432  | 0.178           | 0.178  |          |
|                |                        |      |            | Left Tilt     | 39    | 2441.0      | 14.5          | 14.5  | 0.356          | 0.356  | 0.142           | 0.142  |          |
|                |                        |      |            | Right Touch   | 39    | 2441.0      | 14.5          | 14.5  | 0.419          | 0.419  | 0.173           | 0.173  |          |
|                |                        |      |            | Right Tilt    | 39    | 2441.0      | 14.5          | 14.5  | 0.445          | 0.445  | 0.173           | 0.173  | 49       |
|                | Body-worn              | GFSK | 5          | Rear          | 39    | 2441.0      | 16.5          | 16.0  | 0.346          | 0.388  | 0.132           | 0.148  |          |
|                |                        |      |            | Front         | 39    | 2441.0      | 16.5          | 16.0  | 0.251          | 0.282  | 0.113           | 0.127  |          |

## LAT 3

 $P_{low}$ 

| Frequency Band | RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|----------------|------------------------|------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                |                        |      |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| 2.4 GHz        | Head                   | GFSK | 0          | Left Touch    | 39    | 2441.0      | 10.0          | 10.0  | 0.045          | 0.045  | 0.027           | 0.027  |          |
|                |                        |      |            | Left Tilt     | 39    | 2441.0      | 10.0          | 10.0  | 0.025          | 0.025  | 0.015           | 0.015  |          |
|                |                        |      |            | Right Touch   | 39    | 2441.0      | 10.0          | 10.0  | 0.034          | 0.034  | 0.021           | 0.021  |          |
|                |                        |      |            | Right Tilt    | 39    | 2441.0      | 10.0          | 10.0  | 0.012          | 0.012  | 0.008           | 0.008  |          |
|                | Body-worn              | GFSK | 5          | Rear          | 39    | 2441.0      | 10.0          | 10.0  | 0.077          | 0.077  | 0.036           | 0.036  |          |
|                |                        |      |            | Front         | 39    | 2441.0      | 10.0          | 10.0  | 0.016          | 0.016  | 0.008           | 0.008  |          |

 $P_{high}$ 

| Frequency Band | RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|----------------|------------------------|------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                |                        |      |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| 2.4 GHz        | Head                   | GFSK | 0          | Left Touch    | 39    | 2441.0      | 16.5          | 16.5  | 0.091          | 0.091  | 0.049           | 0.049  |          |
|                |                        |      |            | Left Tilt     | 39    | 2441.0      | 16.5          | 16.5  | 0.029          | 0.029  | 0.016           | 0.016  |          |
|                |                        |      |            | Right Touch   | 39    | 2441.0      | 16.5          | 16.5  | 0.056          | 0.056  | 0.029           | 0.029  |          |
|                |                        |      |            | Right Tilt    | 39    | 2441.0      | 16.5          | 16.5  | 0.049          | 0.049  | 0.025           | 0.025  |          |
|                | Body-worn              | GFSK | 5          | Rear          | 39    | 2441.0      | 13.5          | 13.5  | 0.129          | 0.129  | 0.059           | 0.059  |          |
|                |                        |      |            | Front         | 39    | 2441.0      | 13.5          | 13.5  | 0.028          | 0.028  | 0.017           | 0.017  |          |

 $P_{standalone}$ 

| Frequency Band | RF Exposure Conditions | Mode | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|----------------|------------------------|------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                |                        |      |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| 2.4 GHz        | Head                   | GFSK | 0          | Left Touch    | 39    | 2441.0      | 19.5          | 19.5  | 0.224          | 0.224  | 0.124           | 0.124  |          |
|                |                        |      |            | Left Tilt     | 39    | 2441.0      | 19.5          | 19.5  | 0.079          | 0.079  | 0.043           | 0.043  |          |
|                |                        |      |            | Right Touch   | 39    | 2441.0      | 19.5          | 19.5  | 0.117          | 0.117  | 0.070           | 0.070  |          |
|                |                        |      |            | Right Tilt    | 39    | 2441.0      | 19.5          | 19.5  | 0.108          | 0.108  | 0.059           | 0.059  |          |
|                | Body-worn              | GFSK | 5          | Rear          | 39    | 2441.0      | 16.5          | 16.0  | 0.440          | 0.494  | 0.208           | 0.233  | 50       |
|                |                        |      |            | Front         | 39    | 2441.0      | 16.5          | 16.0  | 0.105          | 0.118  | 0.060           | 0.067  |          |

## 11. SAR Measurement Variability

In accordance with published RF Exposure KDB 865664 D01 SAR measurement 100 MHz to 6 GHz. These additional measurements are repeated after the completion of all measurements requiring the same head or body tissue-equivalent medium in a frequency band. The test device should be returned to ambient conditions (normal room temperature) with the battery fully charged before it is re-mounted on the device holder for the repeated measurement(s) to minimize any unexpected variations in the repeated results.

- 1) Repeated measurement is not required when the original highest measured SAR is  $< 0.8$  or 2 W/kg (1-g or 10-g respectively); steps 2) through 4) do not apply.
- 2) When the original highest measured SAR is  $\geq 0.8$  or 2 W/kg (1-g or 10-g respectively), repeat that measurement once.
- 3) Perform a second repeated measurement only if the **ratio of largest to smallest SAR** for the original and first repeated measurements is  $> 1.20$  or when the original or repeated measurement is  $\geq 1.45$  or 3.6 W/kg (~ 10% from the 1-g or 10-g respective SAR limit).
- 4) Perform a third repeated measurement only if the original, first, or second repeated measurement is  $\geq 1.5$  or 3.75 W/kg (1-g or 10-g respectively) and the ratio of largest to smallest SAR for the original, first and second repeated measurements is  $> 1.20$ .

| Frequency Band (MHz) | Air Interface      | RF Exposure Conditions | Test Position | Repeated SAR (Yes/No) | Highest Measured SAR (W/kg) | First Repeated      |                               | Second Repeated     |                               |
|----------------------|--------------------|------------------------|---------------|-----------------------|-----------------------------|---------------------|-------------------------------|---------------------|-------------------------------|
|                      |                    |                        |               |                       |                             | Measured SAR (W/kg) | Largest to Smallest SAR Ratio | Measured SAR (W/kg) | Largest to Smallest SAR Ratio |
| 700                  | LTE Band 12        | Head                   | Edge 4        | No                    | 0.653                       | N/A                 | N/A                           | N/A                 | N/A                           |
|                      | LTE Band 13        | Body & Hotspot         | Rear          | No                    | 0.630                       | N/A                 | N/A                           | N/A                 | N/A                           |
| 850                  | GSM 850            | Hotspot                | Edge 4        | No                    | 0.269                       | N/A                 | N/A                           | N/A                 | N/A                           |
|                      | CDMA BC0           | Body                   | Rear          | No                    | 0.652                       | N/A                 | N/A                           | N/A                 | N/A                           |
|                      | CDMA BC10          | Head                   | Left Touch    | No                    | 0.618                       | N/A                 | N/A                           | N/A                 | N/A                           |
|                      | WCDMA Band V       | Head                   | Left Touch    | Yes                   | 0.825                       | 0.728               | 1.13                          | N/A                 | N/A                           |
|                      | LTE Band 26        | Head                   | Left Touch    | No                    | 0.712                       | N/A                 | N/A                           | N/A                 | N/A                           |
| 1700                 | WCDMA Band IV      | Body & Hotspot         | Rear          | No                    | 0.883                       | N/A                 | N/A                           | N/A                 | N/A                           |
|                      | LTE Band 66        | Head                   | Right Touch   | YES                   | 1.070                       | 0.996               | 1.07                          | N/A                 | N/A                           |
| 1900                 | GSM 1900           | Body & Hotspot         | Rear          | No                    | 1.030                       | N/A                 | N/A                           | N/A                 | N/A                           |
|                      | CDMA BC1           | Body & Hotspot         | Rear          | Yes                   | 1.090                       | 1.060               | 1.03                          | N/A                 | N/A                           |
|                      | WCDMA Band II      | Body & Hotspot         | Rear          | No                    | 1.010                       | N/A                 | N/A                           | N/A                 | N/A                           |
|                      | LTE Band 25        | Hotspot                | Edge 3        | No                    | 1.080                       | N/A                 | N/A                           | N/A                 | N/A                           |
| 2300                 | LTE Band 30        | Head                   | Right Tilt    | Yes                   | 1.010                       | 1.000               | 1.01                          | N/A                 | N/A                           |
| 2400                 | Wi-Fi 802.11b/g/n  | Body                   | Edge 2        | Yes                   | 1.130                       | 0.960               | 1.18                          | N/A                 | N/A                           |
|                      | BT                 | Body                   | Front         | No                    | 0.445                       | N/A                 | N/A                           | N/A                 | N/A                           |
| 2500                 | LTE Band 7         | Head                   | Left Touch    | Yes                   | 1.090                       | 1.000               | 1.09                          | N/A                 | N/A                           |
| 2600                 | LTE Band 41        | Head                   | Left Touch    | Yes                   | 1.010                       | 0.952               | 1.06                          | N/A                 | N/A                           |
| 5300                 | Wi-Fi 802.11a/n/ac | Body                   | Right Touch   | Yes                   | 1.16                        | 1.10                | 1.05                          | N/A                 | N/A                           |
| 5500                 | Wi-Fi 802.11a/n/ac | Body                   | Rear          | Yes                   | 1.19                        | 1.10                | 1.08                          | N/A                 | N/A                           |
| 5800                 | Wi-Fi 802.11a/n/ac | Body                   | Front         | Yes                   | 1.18                        | 1.14                | 1.04                          | N/A                 | N/A                           |

### Note(s):

Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is  $< 1.20$ .

## 12. Simultaneous Transmission SAR Analysis

KDB 447498 D01 General RF Exposure Guidance explains how to calculate the SAR to Peak Location Ratio (SPLSR) between pairs of simultaneously transmitting antennas:

$$SPLSR = (SAR_1 + SAR_2)^{1.5} / Ri$$

Where:

**SAR<sub>1</sub>** is the highest reported or estimated SAR for the first of a pair of simultaneous transmitting antennas, in a specific test operating mode and exposure condition

**SAR<sub>2</sub>** is the highest reported or estimated SAR for the second of a pair of simultaneous transmitting antennas, in the same test operating mode and exposure condition as the first

**Ri** is the separation distance between the pair of simultaneous transmitting antennas. When the SAR is measured, for both antennas in the pair, it is determined by the actual x, y and z coordinates in the 1-g SAR for each SAR peak location, based on the extrapolated and interpolated result in the zoom scan measurement, using the formula of  $[(x_1 - x_2)^2 + (y_1 - y_2)^2 + (z_1 - z_2)^2]$

In order for a pair of simultaneous transmitting antennas with the sum of 1-g SAR > 1.6 W/kg to qualify for exemption from Simultaneous Transmission SAR measurements, it has to satisfy the condition of:

$$(SAR_1 + SAR_2)^{1.5} / Ri \leq 0.04$$

### Simultaneous Transmission Condition

| RF Exposure Condition                                                                | Item | Capable Transmit Configurations     |                              |   |                                        |  |
|--------------------------------------------------------------------------------------|------|-------------------------------------|------------------------------|---|----------------------------------------|--|
| Head<br><br>Body Worn Accessory<br><br>Hotspot                                       | 1    | WWAN OFF<br>(CELLULAR ANTENNAS OFF) | + (UAT 2) Wi-Fi 5 GHz SISO   | + | (UAT 1) Bluetooth (P <sub>High</sub> ) |  |
|                                                                                      | 2    |                                     | + (LAT 3) Wi-Fi 5 GHz SISO   | + | (UAT 1) Bluetooth (P <sub>High</sub> ) |  |
|                                                                                      | 3    |                                     | + Wi-Fi 5 GHz MIMO           | + | (UAT 1) Bluetooth (P <sub>High</sub> ) |  |
|                                                                                      | 4    |                                     | + (UAT 2) Wi-Fi 5 GHz SISO   | + | (LAT 3) Bluetooth (P <sub>High</sub> ) |  |
|                                                                                      | 5    |                                     | + (LAT 3) Wi-Fi 5 GHz SISO   | + | (LAT 3) Bluetooth (P <sub>High</sub> ) |  |
|                                                                                      | 6    |                                     | + Wi-Fi 5 GHz MIMO           | + | (LAT 3) Bluetooth (P <sub>High</sub> ) |  |
|                                                                                      | 7    | WWAN ON<br>(CELLULAR ANTENNAS ON)   | + (UAT 1) Wi-Fi 2.4 GHz SISO |   |                                        |  |
|                                                                                      | 8    |                                     | + (LAT 3) Wi-Fi 2.4 GHz SISO |   |                                        |  |
|                                                                                      | 9    |                                     | + Wi-Fi 2.4 GHz MIMO         |   |                                        |  |
|                                                                                      | 10   |                                     |                              | + | (UAT 1) Bluetooth (P <sub>High</sub> ) |  |
|                                                                                      | 11   |                                     |                              | + | (LAT 3) Bluetooth (P <sub>High</sub> ) |  |
|                                                                                      | 12   |                                     | + (UAT 2) Wi-Fi 5 GHz SISO   |   |                                        |  |
|                                                                                      | 13   |                                     | + (LAT 3) Wi-Fi 5 GHz SISO   |   |                                        |  |
|                                                                                      | 14   |                                     | + Wi-Fi 5 GHz MIMO           |   |                                        |  |
|                                                                                      | 15   |                                     | + (UAT 2) Wi-Fi 5 GHz SISO   | + | (UAT 1) Bluetooth (P <sub>Low</sub> )  |  |
|                                                                                      | 16   |                                     | + (LAT 3) Wi-Fi 5 GHz SISO   | + | (UAT 1) Bluetooth (P <sub>Low</sub> )  |  |
|                                                                                      | 17   |                                     | + Wi-Fi 5 GHz MIMO           | + | (UAT 1) Bluetooth (P <sub>Low</sub> )  |  |
|                                                                                      | 18   |                                     | + (UAT 2) Wi-Fi 5 GHz SISO   | + | (LAT 3) Bluetooth (P <sub>Low</sub> )  |  |
|                                                                                      | 19   |                                     | + (LAT 3) Wi-Fi 5 GHz SISO   | + | (LAT 3) Bluetooth (P <sub>Low</sub> )  |  |
|                                                                                      | 20   |                                     | + Wi-Fi 5 GHz MIMO           | + | (LAT 3) Bluetooth (P <sub>Low</sub> )  |  |
| Notes:                                                                               |      |                                     |                              |   |                                        |  |
| 1. Wi-Fi 2.4GHz & Bluetooth cannot transmit simultaneously.                          |      |                                     |                              |   |                                        |  |
| 2. Conditions 12, 13, and 14 are covered by conditions 15, 16, and 17, respectively. |      |                                     |                              |   |                                        |  |

**12.1. Sum of the SAR for Worst Case Cell-Off (UNII & BT only)**

| RF Exposure Condition         | Test Position | Standalone SAR (W/kg) |            |            |               |                | $\Sigma$ 1-g SAR (W/g)   |                          |                          |                           |                           |                           |
|-------------------------------|---------------|-----------------------|------------|------------|---------------|----------------|--------------------------|--------------------------|--------------------------|---------------------------|---------------------------|---------------------------|
|                               |               | (E)                   | (F)        | (G)        | (H)           | (J)            | (E)+(H)                  | (F)+(H)                  | (G)+(H)                  | (E)+(J)                   | (F)+(J)                   | (G)+(J)                   |
|                               |               | U-NII UAT2            | U-NII LAT3 | U-NII MIMO | BT UAT1P-high | BT LAT3 P-high | U-NII+BT UAT2+UAT1P-high | U-NII+BT LAT3+UAT1P-high | U-NII+BT MIMO+UAT1P-high | U-NII+BT UAT2+LAT3 P-high | U-NII+BT LAT3+LAT3 P-high | U-NII+BT MIMO+LAT3 P-high |
| Head                          | Left Touch    | 0.613                 | 0.041      | 0.434      | 0.248         | 0.091          | 0.866                    | 0.289                    | 0.682                    | 0.709                     | 0.332                     | 0.525                     |
|                               | Left Tilt     | 0.613                 | 0.041      | 0.434      | 0.238         | 0.029          | 0.856                    | 0.279                    | 0.672                    | 0.647                     | 0.070                     | 0.463                     |
|                               | Right Touch   | 0.613                 | 0.041      | 0.407      | 0.166         | 0.056          | 0.784                    | 0.207                    | 0.573                    | 0.674                     | 0.097                     | 0.463                     |
|                               | Right Tilt    | 0.587                 | 0.041      | 0.434      | 0.203         | 0.049          | 0.790                    | 0.244                    | 0.637                    | 0.636                     | 0.090                     | 0.483                     |
| Body-worn Accessory & Hotspot | Rear          | 1.160                 | 1.190      | 1.180      | 0.188         | 0.129          | 1.348                    | 1.378                    | 1.368                    | 1.289                     | 1.319                     | 1.309                     |
|                               | Front         | 1.160                 | 1.190      | 1.180      | 0.088         | 0.028          | 1.248                    | 1.278                    | 1.268                    | 1.188                     | 1.218                     | 1.208                     |
| Hotspot                       | Edge 1        | 1.160                 | 1.190      | 1.180      |               |                | 1.160                    | 1.190                    | 1.180                    | 1.160                     | 1.190                     | 1.180                     |
|                               | Edge 2        | 1.160                 | 1.190      | 1.180      |               |                | 1.160                    | 1.190                    | 1.180                    | 1.160                     | 1.190                     | 1.180                     |
|                               | Edge 3        | 1.160                 | 0.380      | 0.099      |               |                | 1.160                    | 0.380                    | 0.099                    | 1.160                     | 0.380                     | 0.099                     |
|                               | Edge 4        | 0.262                 | 1.190      | 0.175      |               |                | 0.262                    | 1.190                    | 0.175                    | 0.262                     | 1.190                     | 0.175                     |

**12.2. Sum of the SAR for Worst Case Cell-On (Cellular UAT 1), DTS and BT**

| RF Exposure Condition         | Test Position | Standalone SAR (W/kg) |          |          |          |               |                | $\Sigma$ 1-g SAR (W/g) |                    |                    |                         |                          |
|-------------------------------|---------------|-----------------------|----------|----------|----------|---------------|----------------|------------------------|--------------------|--------------------|-------------------------|--------------------------|
|                               |               | (A)                   | (B)      | (C)      | (D)      | (H)           | (J)            | (A)+(B)                | (A)+(C)            | (A)+(D)            | (A)+(H)                 | (A)+(J)                  |
|                               |               | WWAN UAT1             | DTS UAT1 | DTS LAT3 | DTS MIMO | BT UAT1P-high | BT LAT3 P-high | WWAN+DTS UAT1+UAT1     | WWAN+DTS UAT1+LAT3 | WWAN+DTS UAT1+MIMO | WWAN+BT UAT1+UAT1P-high | WWAN+BT UAT1+LAT3 P-high |
| Head                          | Left Touch    | 1090                  | 0.322    | 0.249    | 0.310    | 0.248         | 0.091          | 1412                   | 1339               | 1400               | 1338                    | 1181                     |
|                               | Left Tilt     | 0.785                 | 0.322    | 0.249    | 0.310    | 0.238         | 0.029          | 1107                   | 1034               | 1095               | 1023                    | 0.814                    |
|                               | Right Touch   | 1074                  | 0.322    | 0.249    | 0.310    | 0.166         | 0.056          | 1396                   | 1323               | 1384               | 1240                    | 1130                     |
|                               | Right Tilt    | 1050                  | 0.322    | 0.249    | 0.310    | 0.203         | 0.049          | 1372                   | 1299               | 1360               | 1253                    | 1099                     |
| Body-worn Accessory & Hotspot | Rear          | 0.893                 | 0.413    | 0.334    | 0.540    | 0.188         | 0.129          | 1306                   | 1227               | 1433               | 1081                    | 1022                     |
|                               | Front         | 0.619                 | 0.474    | 0.334    | 0.540    | 0.088         | 0.028          | 1093                   | 0.953              | 1.159              | 0.707                   | 0.647                    |
| Hotspot                       | Edge 1        | 0.808                 | 0.474    | 0.334    | 0.540    |               |                | 1282                   | 1142               | 1348               | 0.808                   | 0.808                    |
|                               | Edge 2        | 0.882                 | 0.474    | 0.334    | 0.487    |               |                | 1356                   | 1216               | 1369               | 0.882                   | 0.882                    |
|                               | Edge 4        | 0.636                 | 0.474    | 0.334    | 0.540    |               |                | 1110                   | 0.970              | 1.176              | 0.636                   | 0.636                    |

### 12.3. Sum of the SAR for Worst Case Cell-On (Cellular UAT 1), UNII and BT

| RF Exposure Condition         | Test Position | Standalone SAR (W/kg) |            |            |            |              |               | $\Sigma$ 1g SAR (W/g)             |                                   |                                   |                                    |                                    |                                    |
|-------------------------------|---------------|-----------------------|------------|------------|------------|--------------|---------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|
|                               |               | (A)                   | (E)        | (F)        | (G)        | (I)          | (K)           | (A)+(E)+(I)                       | (A)+(F)+(I)                       | (A)+(G)+(I)                       | (A)+(E)+(K)                        | (A)+(F)+(K)                        | (A)+(G)+(K)                        |
|                               |               | WWAN UAT1             | U-NII UAT2 | U-NII LAT3 | U-NII MIMO | BT UAT1P-low | BT LAT3 P-low | WWAN+U-NII+BT UAT1+UAT2+UAT1P-low | WWAN+U-NII+BT UAT1+LAT3+UAT1P-low | WWAN+U-NII+BT UAT1+MIMO+UAT1P-low | WWAN+U-NII+BT UAT1+UAT2+LAT3 P-low | WWAN+U-NII+BT UAT1+LAT3+LAT3 P-low | WWAN+U-NII+BT UAT1+MIMO+LAT3 P-low |
| Head                          | Left Touch    | 1090                  | 0.184      | 0.041      | 0.199      | 0.145        | 0.045         | 1419                              | 1276                              | 1434                              | 1319                               | 1176                               | 1334                               |
|                               | Left Tilt     | 0.785                 | 0.184      | 0.041      | 0.199      | 0.108        | 0.025         | 1077                              | 0.934                             | 1092                              | 0.994                              | 0.851                              | 1009                               |
|                               | Right Touch   | 1074                  | 0.184      | 0.041      | 0.199      | 0.101        | 0.034         | 1359                              | 1216                              | 1374                              | 1292                               | 1149                               | 1307                               |
|                               | Right Tilt    | 1050                  | 0.184      | 0.041      | 0.199      | 0.128        | 0.012         | 1362                              | 1219                              | 1377                              | 1246                               | 1103                               | 1261                               |
| Body-worn Accessory & Hotspot | Rear          | 0.893                 | 0.400      | 0.213      | 0.377      | 0.084        | 0.077         | 1377                              | 1190                              | 1354                              | 1370                               | 1183                               | 1347                               |
|                               | Front         | 0.619                 | 0.400      | 0.213      | 0.377      | 0.039        | 0.016         | 1058                              | 0.871                             | 1035                              | 1035                               | 0.848                              | 1012                               |
| Hotspot                       | Edge 1        | 0.808                 | 0.400      | 0.213      | 0.377      |              |               | 1208                              | 1021                              | 1185                              | 1208                               | 1021                               | 1185                               |
|                               | Edge 2        | 0.882                 | 0.400      | 0.213      | 0.377      |              |               | 1282                              | 1095                              | 1259                              | 1282                               | 1095                               | 1259                               |
|                               | Edge 4        | 0.636                 | 0.072      | 0.213      | 0.046      |              |               | 0.708                             | 0.849                             | 0.682                             | 0.708                              | 0.849                              | 0.682                              |

### 12.4. Sum of the SAR for Worst Case Cell-On (Cellular LAT 1), DTS and BT

| RF Exposure Condition         | Test Position | Standalone SAR (W/kg) |          |          |          |               |                | $\Sigma$ 1g SAR (W/g) |                    |                    |                         |                          |
|-------------------------------|---------------|-----------------------|----------|----------|----------|---------------|----------------|-----------------------|--------------------|--------------------|-------------------------|--------------------------|
|                               |               | (A)                   | (B)      | (C)      | (D)      | (H)           | (J)            | (A)+(B)               | (A)+(C)            | (A)+(D)            | (A)+(H)                 | (A)+(J)                  |
|                               |               | WWAN LAT1             | DTS UAT1 | DTS LAT3 | DTS MIMO | BT UAT1P-high | BT LAT3 P-high | WWAN+DTS LAT1+UAT1    | WWAN+DTS LAT1+LAT3 | WWAN+DTS LAT1+MIMO | WWAN+BT LAT1+UAT1P-high | WWAN+BT LAT1+LAT3 P-high |
| Head                          | Left Touch    | 0.651                 | 0.322    | 0.249    | 0.310    | 0.248         | 0.091          | 0.973                 | 0.900              | 0.961              | 0.899                   | 0.742                    |
|                               | Left Tilt     | 0.221                 | 0.322    | 0.249    | 0.310    | 0.238         | 0.029          | 0.543                 | 0.470              | 0.531              | 0.459                   | 0.250                    |
|                               | Right Touch   | 0.422                 | 0.322    | 0.249    | 0.310    | 0.166         | 0.056          | 0.744                 | 0.671              | 0.732              | 0.588                   | 0.478                    |
|                               | Right Tilt    | 0.275                 | 0.322    | 0.249    | 0.310    | 0.203         | 0.049          | 0.597                 | 0.524              | 0.585              | 0.478                   | 0.324                    |
| Body-worn Accessory & Hotspot | Rear          | 1090                  | 0.413    | 0.334    | 0.540    | 0.188         | 0.129          | 1503                  | 1424               | 1630               | 1278                    | 1219                     |
|                               | Front         | 0.892                 | 0.474    | 0.334    | 0.540    | 0.088         | 0.028          | 1366                  | 1226               | 1432               | 0.980                   | 0.920                    |
| Hotspot                       | Edge 2        | 0.452                 | 0.474    | 0.334    | 0.487    |               |                | 0.926                 | 0.786              | 0.939              | 0.452                   | 0.452                    |
|                               | Edge 3        | 1080                  | 0.474    | 0.334    | 0.029    |               |                | 1554                  | 1414               | 1109               | 1080                    | 1080                     |
|                               | Edge 4        | 0.723                 | 0.474    | 0.334    | 0.540    |               |                | 1197                  | 1057               | 1263               | 0.723                   | 0.723                    |

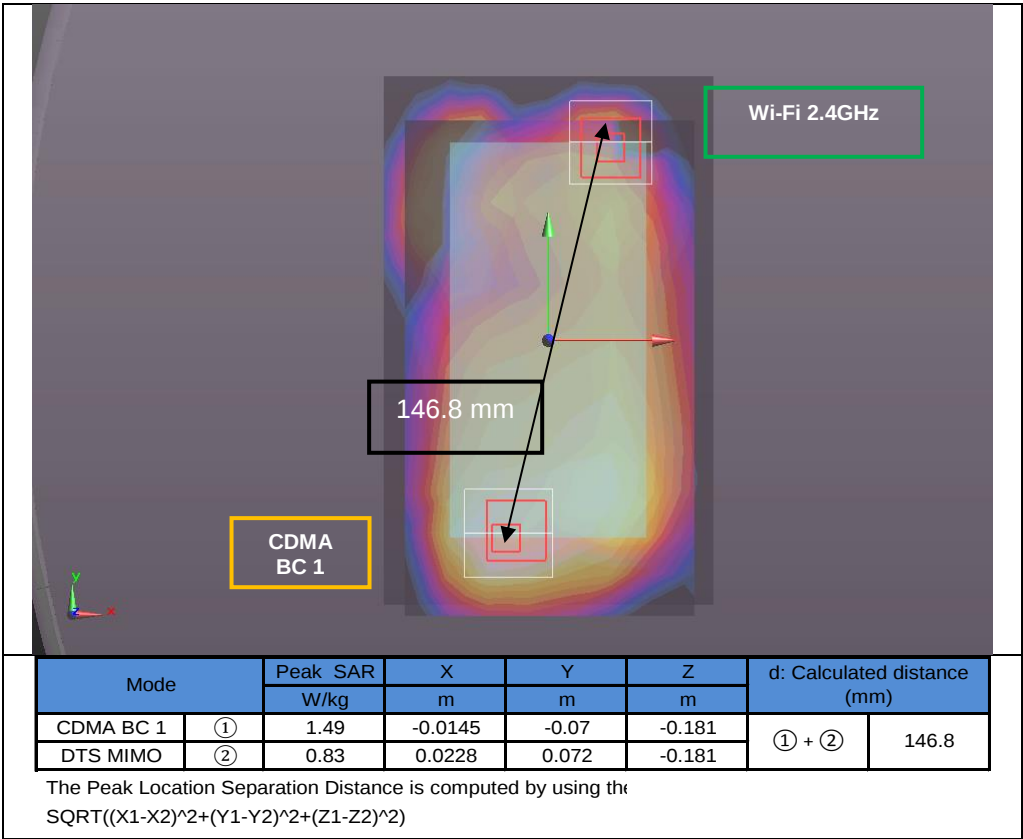
**12.5. Sum of the SAR for Worst Case Cell-On (Cellular LAT 1), UNII and BT**

| RF Exposure Condition         | Test Position | Standalone SAR (W/kg) |               |               |               |                 |                  | $\Sigma$ 1g SAR (W/g)                |                                      |                                      |                                       |                                       |                                       |
|-------------------------------|---------------|-----------------------|---------------|---------------|---------------|-----------------|------------------|--------------------------------------|--------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
|                               |               | (A)                   | (E)           | (F)           | (G)           | (I)             | (K)              | (A)+(E)+(I)                          | (A)+(F)+(I)                          | (A)+(G)+(I)                          | (A)+(E)+(K)                           | (A)+(F)+(K)                           | (A)+(G)+(K)                           |
|                               |               | WWAN<br>LAT1          | U-NII<br>UAT2 | U-NII<br>LAT3 | U-NII<br>MIMO | BT<br>UAT1P-low | BT<br>LAT3 P-low | WWAN+U-NII+BT<br>LAT1+UAT2+UAT1P-low | WWAN+U-NII+BT<br>LAT1+LAT3+UAT1P-low | WWAN+U-NII+BT<br>LAT1+MIMO+UAT1P-low | WWAN+U-NII+BT<br>LAT1+UAT2+LAT3 P-low | WWAN+U-NII+BT<br>LAT1+LAT3+LAT3 P-low | WWAN+U-NII+BT<br>LAT1+MIMO+LAT3 P-low |
| Head                          | Left Touch    | 0.651                 | 0.184         | 0.041         | 0.199         | 0.145           | 0.045            | 0.980                                | 0.837                                | 0.995                                | 0.880                                 | 0.737                                 | 0.895                                 |
|                               | Left Tilt     | 0.221                 | 0.184         | 0.041         | 0.199         | 0.108           | 0.025            | 0.513                                | 0.370                                | 0.528                                | 0.430                                 | 0.287                                 | 0.445                                 |
|                               | Right Touch   | 0.422                 | 0.184         | 0.041         | 0.199         | 0.101           | 0.034            | 0.707                                | 0.564                                | 0.722                                | 0.640                                 | 0.497                                 | 0.655                                 |
|                               | Right Tilt    | 0.275                 | 0.184         | 0.041         | 0.199         | 0.128           | 0.012            | 0.587                                | 0.444                                | 0.602                                | 0.471                                 | 0.328                                 | 0.486                                 |
| Body-worn Accessory & Hotspot | Rear          | 1090                  | 0.400         | 0.213         | 0.377         | 0.084           | 0.077            | 1574                                 | 1387                                 | 1551                                 | 1567                                  | 1380                                  | 1544                                  |
|                               | Front         | 0.892                 | 0.400         | 0.213         | 0.377         | 0.039           | 0.016            | 1331                                 | 1144                                 | 1308                                 | 1308                                  | 1121                                  | 1285                                  |
| Hotspot                       | Edge 2        | 0.452                 | 0.400         | 0.213         | 0.377         |                 |                  | 0.852                                | 0.665                                | 0.829                                | 0.852                                 | 0.665                                 | 0.829                                 |
|                               | Edge 3        | 1080                  | 0.400         | 0.213         | 0.377         |                 |                  | 1480                                 | 1293                                 | 1457                                 | 1480                                  | 1293                                  | 1457                                  |
|                               | Edge 4        | 0.723                 | 0.072         | 0.213         | 0.046         |                 |                  | 0.795                                | 0.936                                | 0.769                                | 0.795                                 | 0.936                                 | 0.769                                 |

SAR to Peak Location Separation Ratio (SPLSR)

| Test Position | Standalone SAR (W/kg) |            | $\Sigma$ 1-g SAR (W/kg) |       | Calculated distance (mm) | SPLSR ( $\leq 0.04$ ) | Volume Scan (Yes/ No) | Figure |
|---------------|-----------------------|------------|-------------------------|-------|--------------------------|-----------------------|-----------------------|--------|
|               | ① WWAN LAT 1          | ② DTS MIMO |                         |       |                          |                       |                       |        |
| Rear          | 1.090                 | 0.540      | ① + ②                   | 1.630 | 146.8                    | 0.01                  | No                    | 1      |

Figure (1)



## **Appendixes**

**Refer to separated files for the following appendixes.**

**11792476-S1V2 SAR\_App A Setup Photos**

**11792476-S1V1 SAR\_App B System Check Plots**

**11792476-S1V2 SAR\_App C Highest Test Plots**

**11792476-S1V1 SAR\_App D Tissue Ingredients**

**11792476-S1V1 SAR\_App E Probe Cal. Certificates**

**11792476-S1V2 SAR\_App F Dipole Cal. Certificates**

**END OF REPORT**