

## TEST REPORT FOR SAR TESTING

Report No.: SRTC2022-9004(F)-22071305(H)  
Product Name: LTE/WCDMA/GSM(GPRS) Multi-Mode Digital Mobile Phone  
Model Name: ZTE A7050  
Applicant: ZTE Corporation  
FCC ID: SRQ-ZTEA7050

| Reference Specification |
|-------------------------|
| Part 2.1093             |
| IEEE Std 1528           |
| KDB Procedures          |

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## 1 GENERAL INFORMATION

### 1.1 Notes of the test report

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### 1.2 Information about the testing laboratory

|                      |                                                                                 |
|----------------------|---------------------------------------------------------------------------------|
| Company:             | The State Radio_monitoring_center Testing Center (SRTC)                         |
| Designation number:  | CN1267                                                                          |
| Registration number: | 239125                                                                          |
| Address:             | 15th Building, No.30 Shixing Street, Shijingshan District, Beijing<br>P.R.China |
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### 1.3 Applicant's details

|          |                                                                                                                       |
|----------|-----------------------------------------------------------------------------------------------------------------------|
| Company: | ZTE Corporation                                                                                                       |
| Address: | ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park, Nanshan<br>District, Shenzhen, Guangdong, 518057, P.R.China |

### 1.4 Manufacturer's details

|          |                                                                                                                       |
|----------|-----------------------------------------------------------------------------------------------------------------------|
| Company: | ZTE Corporation                                                                                                       |
| Address: | ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park, Nanshan<br>District, Shenzhen, Guangdong, 518057, P.R.China |

## 2 DESCRIPTION OF THE EQUIPMENT UNDER TEST

### 2.1 DUT information

| Band Information     |
|----------------------|
| GSM850               |
| GSM1900              |
| WCDMA Band II        |
| WCDMA Band IV        |
| WCDMA Band V         |
| LTE Band2            |
| LTE Band4            |
| LTE Band5            |
| LTE Band7            |
| LTE Band13           |
| LTE Band26           |
| LTE Band28           |
| LTE Band38           |
| LTE Band66           |
| Bluetooth            |
| Bluetooth Low Energy |
| WIFI2.4GHz           |
| WIFI5GHz UNII-1      |
| WIFI5GHz UNII-3      |

| Mode supported        | Note |
|-----------------------|------|
| GSM_GMSK              | NA   |
| GSM_8PSK              | NA   |
| WCDMA_RMC Rel.99      | NA   |
| WCDMA_HSDPA Rel.5     | NA   |
| WCDMA_HSUPA Rel.6     | NA   |
| WCDMA_HSPA+ Rel. 7    | NA   |
| WCDMA_DC-HSDPA Rel. 8 | NA   |
| LTE_QPSK              | NA   |
| LTE_16QAM             | NA   |
| LTE_64QAM             | NA   |
| BR/EDR                | NA   |
| BLE                   | NA   |
| 802.11b(2.4GHz)       | NA   |
| 802.11g(2.4GHz)       | NA   |
| 802.11n HT20(2.4GHz)  | NA   |
| 802.11n HT40(2.4GHz)  | NA   |
| 802.11a(5GHz)         | NA   |
| 802.11n HT20(5GHz)    | NA   |
| 802.11ac VHT20(5GHz)  | NA   |
| 802.11n HT40(5GHz)    | NA   |
| 802.11ac VHT40(5GHz)  | NA   |
| 802.11ac VHT80(5GHz)  | NA   |

## 2.2 Exposure conditions

### General description

**Head Configuration:** Measurements were made in “cheek” and “tilt” positions on both the left hand and right-hand sides of the phantom. The positions used in the measurements were according to IEEE 1528 "IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques".

**Body Worn Configuration:** The device was placed in the SPEAG holder below the flat section of the phantom. The distance between the device and the phantom was kept at the separation distance using a separate flat spacer that was removed before the start of the measurements. And the distance is normally determined according to the actual scene which might be the worst use condition for general exposure. The device's front and rear were oriented facing the phantom since these orientations give higher results for most regular portable devices.

**Hotspot Configuration:** Hotspot mode SAR is measured for all edges and surfaces of the device with a transmitting antenna located within 25 mm from that surface or edge; for the data modes, wireless technologies and frequency bands supporting hotspot mode.

**Body Configuration:** Body SAR is measured for all edges and surfaces of the device or refer to hotspot configuration. (For the device such as tablet and mobile phone etc.)

**Limb Configuration:** Extremity limb SAR is measured for all edges and surfaces of the device or refer to hotspot configuration.

**Body-support Configuration:** Body-support device such as laptop is not commonly require SAR test.

| DUT Exposure Condition | Distance(mm) |
|------------------------|--------------|
| Head                   | 0            |
| Body-worn              | 10           |
| Hotspot                | 10           |

## 2.3 Other information

|                      |                      |
|----------------------|----------------------|
| Testing Start Date:  | 2022/7/13            |
| Testing End Date:    | 2022/7/20            |
| DUT IMEI:            | 863949060003823      |
| DUT H/W Version:     | ZTE A7050HW1.0       |
| DUT S/W Version:     | MyOS12.0.0_A7050_TEL |
| Ambient Temperature: | 22°C                 |
| Humidity:            | 35%                  |
| Note                 | N/A                  |

## 2.4 Modification Statement

|                           |                                                                               |
|---------------------------|-------------------------------------------------------------------------------|
| HARDWARE MODIFICATION:    | Camera changes: Yes, main back camera is changed from 13M pixel to 50M pixel. |
| MECHANICAL MODIFICATIONS: | Other changes detailed: Yes, the module size of main back camera is changed.  |

### 3 SPECIFICATION

| Specification       | Version | Title                                                                                                                                                                                                                                                               |
|---------------------|---------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Part 2.1093         | Latest  | Radio frequency radiation exposure evaluation: portable devices.                                                                                                                                                                                                    |
| IEEE Std 1528       | 2013    | IEEE Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques                                                                                    |
| IEC/IEEE 62209-1528 | 2020    | Measurement procedure for the assessment of specific absorption rate of human exposure to radio frequency fields from hand-held and body-mounted wireless communication devices- Part 1528: Human models, instrumentation, and (Frequency range of 4 MHz to 10 GHz) |
| KDB 248227 D01      | v02r02  | SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS                                                                                                                                                                                                                   |
| KDB 447498 D01      | v06     | General RF Exposure Guidance                                                                                                                                                                                                                                        |
| KDB 447498 D02      | v02r01  | SAR MEASUREMENT PROCEDURES FOR USB DONGLE TRANSMITTERS                                                                                                                                                                                                              |
| KDB 643646 D01      | v01r03  | SAR TEST REDUCTION CONSIDERATIONS FOR OCCUPATIONAL PTT RADIOS                                                                                                                                                                                                       |
| KDB 616217 D04      | v01r02  | SAR for laptop and tablets                                                                                                                                                                                                                                          |
| KDB 648474 D04      | v01r03  | Handset SAR                                                                                                                                                                                                                                                         |
| KDB 865664 D01      | v01r04  | SAR Measurement from 100 MHz to 6 GHz                                                                                                                                                                                                                               |
| KDB 865664 D02      | v01r02  | RF Exposure Reporting                                                                                                                                                                                                                                               |
| KDB 941225 D01      | v03r01  | 3G SAR MEASUREMENT PROCEDURES                                                                                                                                                                                                                                       |
| KDB 941225 D05      | v02r05  | SAR for LTE Devices                                                                                                                                                                                                                                                 |
| KDB 941225 D06      | v02r01  | SAR EVALUATION PROCEDURES FOR PORTABLE DEVICES WITH WIRELESS ROUTER CAPABILITIES                                                                                                                                                                                    |
| KDB 941225 D07      | v01r02  | SAR EVALUATION PROCEDURES FOR UMPC MINI-TABLET DEVICES                                                                                                                                                                                                              |

## 4 TEST CONDITIONS

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### 4.1 Test signal, frequencies and output power

The device was put into operation by using a call tester. Communication between the device and the call tester was established by air link. Non-signaling mode also applied. The device output power was set to maximum power level for all tests; a fully charged battery was used for every test sequence. In all operating bands the measurements were performed on lowest, middle and highest channels.

### 4.2 SAR measurement set-up

The system is based on a high precision robot (working range greater than 0.9m), which positions the probes with a positional repeatability of better than  $\pm 0.02\text{mm}$ . Special E-probe have been developed for measurements close to material discontinuity, the sensors of which are directly loaded with a Schottky diode and connected via highly resistive lines (length = 300mm) to the data acquisition unit. A cell controller system contains the power supply, robot controller, teaches pendant (Joystick), and remote control, is used to drive the robot motors. The PC consists of the Micron Pentium IV computer with Win7 system and SAR Measurement Software DASY5 Professional, A/D interface card, monitor, mouse, and keyboard. The Stäubli Robot is connected to the cell controller to allow software manipulation of the robot. A data acquisition electronic (DAE) circuit performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. is connected to the Electro-optical coupler (EOC). The EOC performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC plug-in card. The DAE consists of a highly sensitive electrometer-grade preamplifier with auto-zeroing, a channel and gain-switching multiplexer, a fast 16 bit AD-converter and a command decoder and control logic unit. Transmission to the PC-card is accomplished through an optical Downlink for data and status information and an optical uplink for commands and clock lines. The mechanical probe mounting device includes two different sensor systems for frontal and sidewise probe contacts. They are also used for mechanical surface detection and probe collision detection. The robot uses its own controller with a built in VME-bus computer.

### 4.3 Phantoms

The phantom used for all tests i.e. for both system checks and device testing, was the twin headed "SAM Phantom", manufactured by SPEAG. The phantom conforms to the requirements. System checking was performed using the flat section, whilst Head SAR tests used the left and right head profile sections. Body SAR testing also used the flat section between the head profiles. The SPEAG device holder (see Section 4.6.1) was used to position the device in all tests whilst a tripod was used to position the validation dipoles against the flat section of phantom.



#### 4.4 Tissue stimulants

Recommended values for the dielectric parameters of the tissue simulants are given in reference standards. The depth of the tissue simulant was  $15.0 \pm 0.5$  cm measured from the ear reference point during system checking and device measurements. The following tissue simulants were used for test:

|                                                                                     |                                    |
|-------------------------------------------------------------------------------------|------------------------------------|
| Name                                                                                | Broadband tissue-equivalent liquid |
| Type                                                                                | HBBL600-10000V6 Simulating Liquid  |
| Supplier                                                                            | SPEAG                              |
|  |                                    |
| Liquid depth for SAR Measurement                                                    |                                    |

#### 4.5 Device holder

The device was placed in the device holder (illustrated below) that is supplied by SPEAG as an integral part of the Dasy52 system.



#### 4.6 Scan procedure

First, area scans were used for determination of the field distribution and the approximate location of the local peak SAR values. The SAR distribution is scanned along the inside surface, at least for an area larger than the projection of the handset and antenna. The angle between the probe axis and the surface normal line is recommended but not required to be less than 30°. The SAR distribution is first measured on a 2-D coarse grid. The scan region should cover all areas that are exposed and encompassed by the projection of the handset. There are 15 mm × 15 mm (equal or less than 2GHz), 12 mm × 12 mm (from 2GHz~4GHz) and 10mm x 10mm (from 4GHz~6GHz) measurement grid used when two staggered one-dimensional cubic splines are used to estimate the maximum SAR location.

When the reported 1g-SAR estimated by area scan is less than 1.40 w/kg.

Zoom scan was performed by using the configuration mentioned below or more conservative scan area and step to determine the averaged SAR value. Drift was determined by measuring the same point at the start of the area scan and again at the end of the zoom scan.

Below 3GHz: 32mmX32mmX30mm scan area with 8 mm X8 mm X5 mm steps

2GHz-3GHz: 32mmX32mmX30mm scan area with 8 mm X8 mm X5 mm steps

3GHz-4GHz: 28mmX28mmX28mm scan area with 7 mm X7 mm X4 mm steps

4GHz-5GHz: 25mmX25mmX24mm scan area with 5 mm X5 mm X3 mm steps

5GHz-6GHz: 25mmX25mmX22mm scan area with 5 mm X5 mm X2 mm steps

#### 4.7 SAR averaging methods

The maximum SAR value was averaged over a cube of tissue using interpolation and extrapolation.

The interpolation, extrapolation and maximum search routines within Dasy5 are all based on the modified Quadratic Shepard's method (Robert J. Renka, "Multivariate Interpolation Of Large Sets Of Scattered Data", University of North Texas ACM Transactions on Mathematical Software, vol. 14, no. 2, June 1988, pp. 139-148).

The interpolation scheme combines a least-square fitted function method with a weighted average method. A trivariate 3-D / bivariate 2-D quadratic function is computed for each measurement point and fitted to neighboring points by a least-square method. For the zoom scan, inverse distance weighting is incorporated to fit distant points more accurately. The interpolating function is finally calculated as a weighted average of the quadratics.

In the zoom scan, the interpolation function is used to extrapolate the Peak SAR from the deepest measurement points to the inner surface of the phantom.

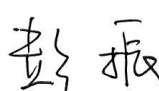
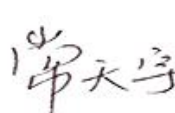
## 5 RESULT SUMMARY

The maximum reported SAR values for all exposure conditions supported are given as following. The device meet the compliance.

| Licensed Band Standalone Transmission Summary(SISO1) |                |                  |             |         |
|------------------------------------------------------|----------------|------------------|-------------|---------|
| Exposure Position                                    | Frequency Band | SAR Result(W/kg) | Limit(W/kg) | Verdict |
| Head                                                 | GSM850         | 0.14             | 1.60        | Pass    |
|                                                      | GSM1900        | 0.10             | 1.60        | Pass    |
|                                                      | WCDMA Band II  | 0.13             | 1.60        | Pass    |
|                                                      | WCDMA Band IV  | 0.13             | 1.60        | Pass    |
|                                                      | WCDMA Band V   | 0.17             | 1.60        | Pass    |
|                                                      | LTE Band2      | 0.10             | 1.60        | Pass    |
|                                                      | LTE Band4      | 0.15             | 1.60        | Pass    |
|                                                      | LTE Band5      | 0.16             | 1.60        | Pass    |
|                                                      | LTE Band7      | 0.73             | 1.60        | Pass    |
|                                                      | LTE Band13     | 0.17             | 1.60        | Pass    |
|                                                      | LTE Band26     | 0.17             | 1.60        | Pass    |
|                                                      | LTE Band28     | 0.12             | 1.60        | Pass    |
|                                                      | LTE Band38     | 0.47             | 1.60        | Pass    |
|                                                      | LTE Band66     | 0.11             | 1.60        | Pass    |
| Body-Worn                                            | GSM850         | 0.28             | 1.60        | Pass    |
|                                                      | GSM1900        | 0.62             | 1.60        | Pass    |
|                                                      | WCDMA Band II  | 0.84             | 1.60        | Pass    |
|                                                      | WCDMA Band IV  | 1.03             | 1.60        | Pass    |
|                                                      | WCDMA Band V   | 0.28             | 1.60        | Pass    |
|                                                      | LTE Band2      | 0.86             | 1.60        | Pass    |
|                                                      | LTE Band4      | 1.02             | 1.60        | Pass    |
|                                                      | LTE Band5      | 0.46             | 1.60        | Pass    |
|                                                      | LTE Band7      | 0.66             | 1.60        | Pass    |
|                                                      | LTE Band13     | 0.36             | 1.60        | Pass    |
|                                                      | LTE Band26     | 0.40             | 1.60        | Pass    |
|                                                      | LTE Band28     | 0.27             | 1.60        | Pass    |
|                                                      | LTE Band38     | 0.33             | 1.60        | Pass    |
|                                                      | LTE Band66     | 1.01             | 1.60        | Pass    |
| Hotspot                                              | GSM850         | 0.28             | 1.60        | Pass    |
|                                                      | GSM1900        | 0.62             | 1.60        | Pass    |
|                                                      | WCDMA Band II  | 0.84             | 1.60        | Pass    |
|                                                      | WCDMA Band IV  | 1.03             | 1.60        | Pass    |
|                                                      | WCDMA Band V   | 0.28             | 1.60        | Pass    |
|                                                      | LTE Band2      | 0.86             | 1.60        | Pass    |
|                                                      | LTE Band4      | 1.02             | 1.60        | Pass    |
|                                                      | LTE Band5      | 0.46             | 1.60        | Pass    |
|                                                      | LTE Band7      | 0.66             | 1.60        | Pass    |
|                                                      | LTE Band13     | 0.36             | 1.60        | Pass    |
|                                                      | LTE Band26     | 0.40             | 1.60        | Pass    |
|                                                      | LTE Band28     | 0.27             | 1.60        | Pass    |
|                                                      | LTE Band38     | 0.33             | 1.60        | Pass    |
|                                                      | LTE Band66     | 1.01             | 1.60        | Pass    |

| Unlicensed Band Standalone Transmission Summary(SISO1) |                 |                  |             |         |
|--------------------------------------------------------|-----------------|------------------|-------------|---------|
| Exposure Position                                      | Frequency Band  | SAR Result(W/kg) | Limit(W/kg) | Verdict |
| Head                                                   | BT/BLE          | 0.02             | 1.60        | Pass    |
|                                                        | WLAN2.4GHz      | 0.55             | 1.60        | Pass    |
|                                                        | WLAN5GHz UNII-1 | 0.94             | 1.60        | Pass    |
|                                                        | WLAN5GHz UNII-3 | 0.66             | 1.60        | Pass    |
| Body-Worn                                              | BT/BLE          | 0.01             | 1.60        | Pass    |
|                                                        | WLAN2.4GHz      | 0.26             | 1.60        | Pass    |
|                                                        | WLAN5GHz UNII-1 | 1.02             | 1.60        | Pass    |
|                                                        | WLAN5GHz UNII-3 | 0.59             | 1.60        | Pass    |
| Hotspot                                                | BT/BLE          | 0.01             | 1.60        | Pass    |
|                                                        | WLAN2.4GHz      | 0.26             | 1.60        | Pass    |
|                                                        | WLAN5GHz UNII-1 | 1.08             | 1.60        | Pass    |
|                                                        | WLAN5GHz UNII-3 | 0.67             | 1.60        | Pass    |

| Simultaneous Transmission Summary |                             |                          |             |         |
|-----------------------------------|-----------------------------|--------------------------|-------------|---------|
| Exposure Position                 | Mode                        | Highest SAR Result(W/kg) | Limit(W/kg) | Verdict |
| Head                              | LTE Band7+WLAN5GHz SISO     | 1.23                     | 1.60        | Pass    |
| Body-Worn                         | WCDMA Band IV+WLAN5GHz Main | 1.00                     | 1.60        | Pass    |
| Hotspot                           | LTE Band7+WLAN5GHz Main     | 1.27                     | 1.60        | Pass    |

|                                                                                                                                                |                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| <p>This Test Report Is Approved by:</p> <p>Mr. Peng Zhen</p>  | <p>Review by:</p> <p>Mr. Chang Tian Yu</p>  |
| <p>Tested and Issued by:</p> <p>Mr. Wang Hao</p>              | <p>Approved date:</p> <p>2022/7/21</p>                                                                                         |

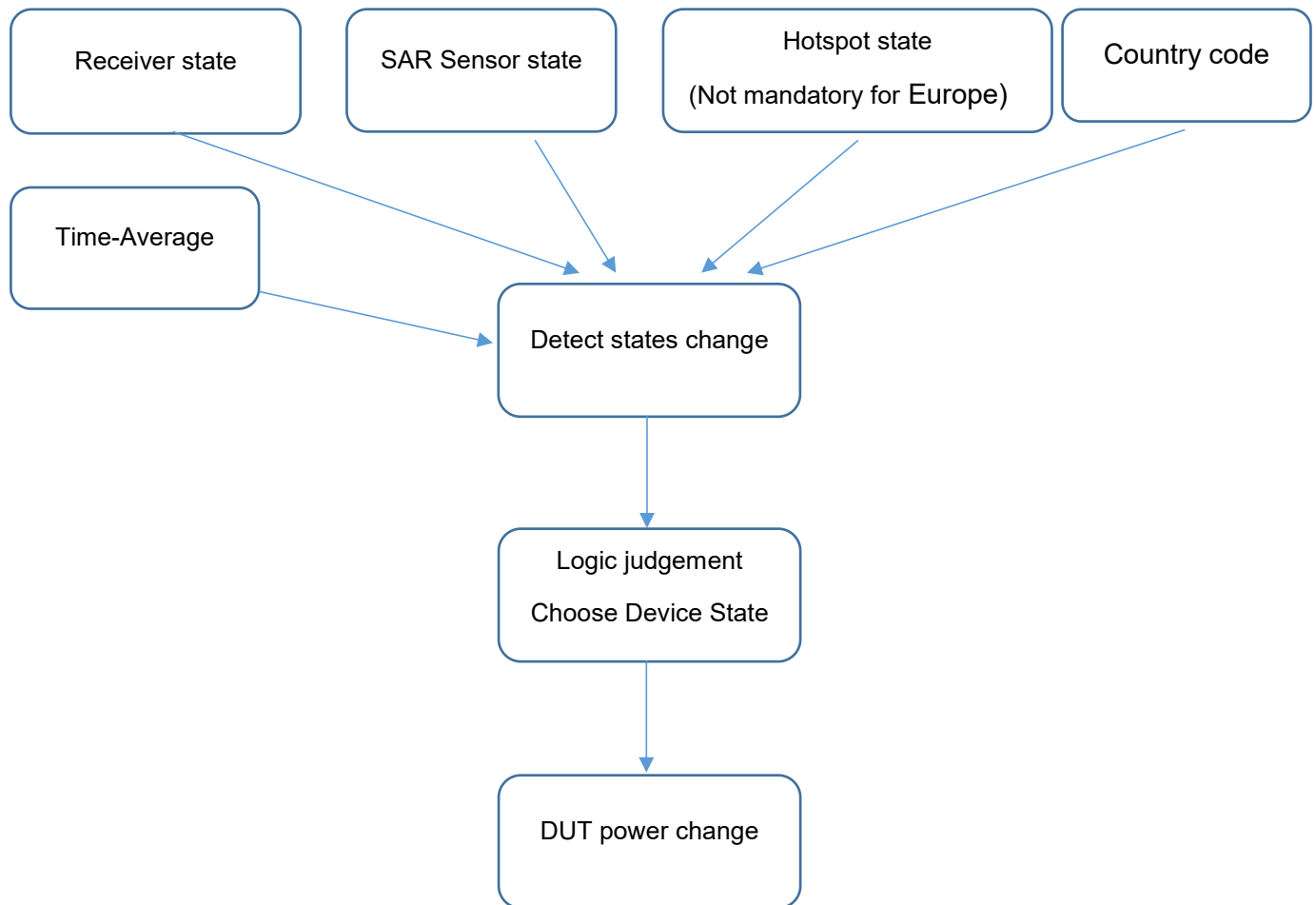
## 6 TEST RESULTS

### 6.1 Scenario

#### General description:

In common, there are several power change schemes based on technologies mentioned below, but different product use different method to change conducted power for relevant transmitters. These methods could be used together on both standalone and simultaneous transmission (Depends on specific scenario)

|               |                                    |
|---------------|------------------------------------|
| Receiver:     | Triggered when receive ON/OFF      |
| P-sensor:     | Triggered when sensor ON/OFF       |
| Hotspot:      | Triggered when hotspot ON/OFF      |
| Country code: | Triggered through MCC/A-GNSS       |
| TA:           | Time average SAR based on Qualcomm |



| DUT Power change scheme | Scenario | Note                          |
|-------------------------|----------|-------------------------------|
| Receiver                | Head     | Receiver ON with reduce power |

## 6.2 Average conducted power with Tune up tolerance

### 6.2.1 GSM

General description:

| GPRS Coding Scheme                      | Bit Rate (kbit/s/slot) |            | Modulation     | Code Rate        |
|-----------------------------------------|------------------------|------------|----------------|------------------|
| CS-1                                    | 8.0                    |            | GMSK           | 1/2              |
| CS-2                                    | 12.0                   |            | GMSK           | $\approx 2/3$    |
| CS-3                                    | 14.4                   |            | GMSK           | $\approx 3/4$    |
| CS-4                                    | 20.0                   |            | GMSK           | 1                |
| EDGE Modulation and Coding Scheme (MCS) | Bit Rate (kbit/s/slot) | Modulation | Data Code Rate | Header Code Rate |
| MCS-1                                   | 8.8                    | GMSK       | $\approx 0.53$ | $\approx 0.53$   |
| MCS-2                                   | 11.2                   | GMSK       | $\approx 0.66$ | $\approx 0.53$   |
| MCS-3                                   | 14.8                   | GMSK       | $\approx 0.85$ | $\approx 0.53$   |
| MCS-4                                   | 17.6                   | GMSK       | 1              | $\approx 0.53$   |
| MCS-5                                   | 22.4                   | 8PSK       | $\approx 0.37$ | 1/3              |
| MCS-6                                   | 29.6                   | 8PSK       | $\approx 0.49$ | 1/3              |
| MCS-7                                   | 44.8                   | 8PSK       | $\approx 0.76$ | $\approx 0.39$   |
| MCS-8                                   | 57.05                  | 8PSK       | $\approx 0.92$ | $\approx 0.39$   |
| MCS-9                                   | 61.85                  | 8PSK       | 1              | $\approx 0.39$   |

#### Division Factors:

To average the power, the division factor is as follows:

1TX-slot (1uplink) = 1 transmit time slot out of 8 time slots=> conducted power divided by (8/1) => -9.03dB

2TX-slots(2uplink) = 2 transmit time slots out of 8 time slots=> conducted power divided by (8/2) => -6.02dB

3TX-slots (3uplink) = 3 transmit time slots out of 8 time slots=> conducted power divided by (8/3) => -4.26dB

4TX-slots (4uplink) = 4 transmit time slots out of 8 time slots=> conducted power divided by (8/4) => -3.01dB

**Note: GSM SAR was tested under the mode with maximum frame average power.**

### Licensed SISO1

#### Full Power

##### GSM850

| TX Mode      | TX slot | Burst Power (dBm) |       |       | Tuneup Tolerance (dBm) | Frame power(dBm)  |       |       | Tuneup Tolerance (dBm) |
|--------------|---------|-------------------|-------|-------|------------------------|-------------------|-------|-------|------------------------|
|              |         | Frequency/Channel |       |       |                        | Frequency/Channel |       |       |                        |
|              |         | 880.2             | 897.4 | 914.8 |                        | 880.2             | 897.4 | 914.8 |                        |
|              |         | 975               | 37    | 124   |                        | 975               | 37    | 124   |                        |
| GSM          | 1 slot  | 32.39             | 32.39 | 32.34 | 32.50                  | 23.36             | 23.36 | 23.31 | 23.50                  |
| GPRS (GMSK)  | 1 slot  | 32.28             | 32.28 | 32.22 | 32.50                  | 23.25             | 23.25 | 23.19 | 23.50                  |
|              | 2 slots | 30.27             | 30.27 | 30.27 | 30.50                  | 24.25             | 24.25 | 24.25 | 24.50                  |
|              | 3 slots | 28.54             | 28.54 | 28.51 | 29.00                  | 24.28             | 24.28 | 24.25 | 24.50                  |
|              | 4 slots | 26.51             | 26.48 | 26.38 | 27.00                  | 23.50             | 23.47 | 23.37 | 23.50                  |
| EGPRS (8PSK) | 1 slot  | 24.84             | 25.37 | 25.01 | 25.50                  | 15.81             | 16.34 | 15.98 | 16.50                  |
|              | 2 slots | 23.40             | 24.16 | 24.13 | 24.50                  | 17.38             | 18.14 | 18.11 | 18.50                  |
|              | 3 slots | 21.45             | 21.88 | 21.54 | 22.00                  | 17.19             | 17.62 | 17.28 | 18.00                  |
|              | 4 slots | 19.58             | 19.51 | 18.98 | 20.00                  | 16.57             | 16.50 | 15.97 | 17.00                  |

##### GSM1900

| TX Mode      | TX slot | Burst Power (dBm) |        |        | Tuneup Tolerance (dBm) | Frame power(dBm)  |        |        | Tuneup Tolerance (dBm) |
|--------------|---------|-------------------|--------|--------|------------------------|-------------------|--------|--------|------------------------|
|              |         | Frequency/Channel |        |        |                        | Frequency/Channel |        |        |                        |
|              |         | 1710.2            | 1747.4 | 1784.8 |                        | 1710.2            | 1747.4 | 1784.8 |                        |
|              |         | 512               | 698    | 885    |                        | 512               | 698    | 885    |                        |
| GSM          | 1 slot  | 28.94             | 29.18  | 29.39  | 29.50                  | 19.91             | 20.15  | 20.36  | 20.50                  |
| GPRS (GMSK)  | 1 slot  | 28.82             | 29.06  | 29.26  | 29.50                  | 19.79             | 20.03  | 20.23  | 20.50                  |
|              | 2 slots | 26.97             | 27.28  | 27.53  | 28.00                  | 20.95             | 21.26  | 21.51  | 22.00                  |
|              | 3 slots | 25.43             | 25.74  | 26.01  | 26.50                  | 21.17             | 21.48  | 21.75  | 22.00                  |
|              | 4 slots | 23.42             | 23.72  | 23.98  | 24.00                  | 20.41             | 20.71  | 20.97  | 21.00                  |
| EGPRS (8PSK) | 1 slot  | 25.38             | 25.36  | 25.62  | 26.00                  | 16.35             | 16.33  | 16.59  | 17.00                  |
|              | 2 slots | 23.77             | 24.34  | 24.79  | 25.00                  | 17.75             | 18.32  | 18.77  | 19.00                  |
|              | 3 slots | 20.88             | 20.65  | 21.19  | 21.50                  | 16.62             | 16.39  | 16.93  | 17.00                  |
|              | 4 slots | 18.62             | 18.96  | 19.19  | 19.50                  | 15.61             | 15.95  | 16.18  | 16.50                  |



## 6.2.2 WCDMA

### General description:

Release 99

The following tests were completed according to the test requirements outlined in 3GPP TS34.121-1 specification.

| Mode                   | Subtest                 | Rel99                                        |
|------------------------|-------------------------|----------------------------------------------|
| WCDMA General Settings | Loopback Mode           | Test Mode 1                                  |
|                        | RMC mode<br>AMR mode    | 12.2kbps RMC<br>12.2kbps RMC in 3.4 kbps SRB |
|                        | Power Control Algorithm | Algorithm2                                   |
|                        | $\beta_c/\beta_d$       | 8/15                                         |

Release 5

The following 4 Sub-tests were completed according to Release 5 procedures in 3GPP TS34.121.

| Sub-test | $\beta_c$            | $\beta_d$            | $\beta_d$<br>(SF) | $\beta_c/\beta_d$    | $\beta_{hs}^{(1)}$ | CM(dB) <sup>(2)</sup> |
|----------|----------------------|----------------------|-------------------|----------------------|--------------------|-----------------------|
| 1        | 2/15                 | 15/15                | 64                | 2/15                 | 4/15               | 0.0                   |
| 2        | 12/15 <sup>(3)</sup> | 15/15 <sup>(3)</sup> | 64                | 12/15 <sup>(3)</sup> | 24/15              | 1.0                   |
| 3        | 15/15                | 8/15                 | 64                | 15/18                | 30/15              | 1.5                   |
| 4        | 15/15                | 4/15                 | 64                | 15/4                 | 30/15              | 1.5                   |

Note1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$ .

Note2: CM=1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ .

Note3: For subtest 2 the  $\beta_c/\beta_d$  ratio of 12/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC(TF1,TF1) to  $\beta_c = 11/15$  and  $\beta_d = 15/15$ .

## Release 6

The following 5 Sub-tests were completed according to Release 6 procedures in 3GPP TS34.121.

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

Note1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$ .

Note2: CM=1 for  $\beta_c/\beta_d = 12/15, \beta_{hs}/\beta_c = 24/15$ . For all other combinations of DPDCH, DPCCH, HS-DPCCH, E-DPDCH and E-DPCCH the MPR is based on the relative CM difference.

Note3: For subtest 1 the  $\beta_c/\beta_d$  ratio of 11/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC(TF1,TF1) to  $\beta_c=10/15$  and  $\beta_d=15/15$ .

Note4: For subtest 5 the  $\beta_c/\beta_d$  ratio of 15/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC(TF1,TF1) to  $\beta_c=14/15$  and  $\beta_d=15/15$ .

NOTE5: Testing UE using E-DPDCH Physical layer category 1 Sub-test 3 is not required according to TS 25.306 Table 5.1g.

NOTE6:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

## Release 7

The following 1 Sub-test was completed according to Release 7 procedures in section 5.2 of 3GPP TS34.121.

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

| Sub-test | $\beta_c$<br>(Note3) | $\beta_d$ | $\beta_{hs}$<br>(Note1) | $\beta_{ec}$ | $\beta_{ed}$<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               |

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

Note 2: CM = 3.5 and the MPR is based on the relative CM difference, MPR = MAX(CM-1,0).

Note 3: DPDCH is not configured, therefore the  $\beta_c$  is set to 1 and  $\beta_d = 0$  by default.

Note 4:  $\beta_{ed}$  can not be set directly; it is set by Absolute Grant Value.

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.

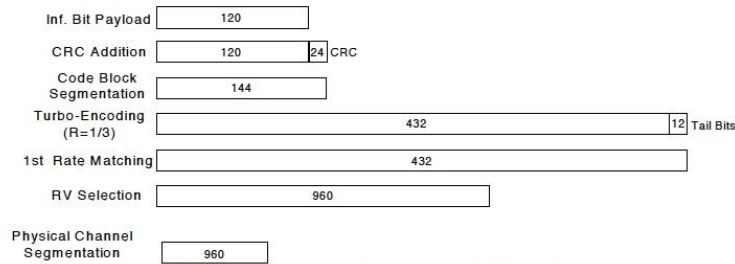
Release 8

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

| Parameter<br>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  |

**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                                                                                                                               | Processes | 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 3GPP TS34.121.

| Sub-test | $\beta_c$            | $\beta_d$            | $\beta_d$<br>(SF) | $\beta_c/\beta_d$    | $\beta_{hs}^{(1)}$ | CM(dB) <sup>(2)</sup> |
|----------|----------------------|----------------------|-------------------|----------------------|--------------------|-----------------------|
| 1        | 2/15                 | 15/15                | 64                | 2/15                 | 4/15               | 0.0                   |
| 2        | 12/15 <sup>(3)</sup> | 15/15 <sup>(3)</sup> | 64                | 12/15 <sup>(3)</sup> | 24/15              | 1.0                   |
| 3        | 15/15                | 8/15                 | 64                | 15/18                | 30/15              | 1.5                   |
| 4        | 15/15                | 4/15                 | 64                | 15/4                 | 30/15              | 1.5                   |

Note1:  $\Delta_{ACK}$ ,  $\Delta_{NACK}$  and  $\Delta_{CQI} = 8 \Leftrightarrow A_{hs} = \beta_{hs}/\beta_c = 30/15 \Leftrightarrow \beta_{hs} = 30/15 * \beta_c$ .

Note2: CM=1 for  $\beta_c/\beta_d = 12/15$ ,  $\beta_{hs}/\beta_c = 24/15$ .

Note3: For subtest 2 the  $\beta_c/\beta_d$  ratio of 12/15 for the TFC during the measurement period(TF1,TF0) is achieved by setting the signaled gain factors for the reference TFC(TF1,TF1) to  $\beta_c = 11/15$  and  $\beta_d = 15/15$ .

## Release 9

The clause (UE Maximum Output Power for DC-HSUPA) is **incomplete** in 3GPP TS34.121 so far.

| Parameter                                                                                                                                                      | Unit         | Cell 1                         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|--------------------------------|
| Cell type                                                                                                                                                      |              | Serving cell                   |
| UTRA RF Channel Number                                                                                                                                         |              | As defined in clause 5.2BB.4.1 |
| Qqualmin                                                                                                                                                       | dB           | -24                            |
| Qrxlevmin                                                                                                                                                      | dBm          | -115                           |
| UE_TXPWR_MAX_RACH                                                                                                                                              | dBm          | +21                            |
| $I_{or}$ (see notes 1 and 2)                                                                                                                                   | dBm/3.84 MHz | -86                            |
| NOTE 1: The power level is specified in terms of $I_{or}$ instead of CPICH_RSCP because RSCP is a receiver measurement, whereas the SS can only set $I_{or}$ . |              |                                |
| NOTE 2: The cell fulfils TS 25.304, clause 5.2.3.1.2.                                                                                                          |              |                                |

**Note: UMTS SAR was tested under Rel.99 RMC 12.2kbps mode. For other higher release configuration, SAR was not required.**

### ***Licensed SISO1.***

Full Power

band II

| Mode       |              | RF Output Power(dBm) |       |        | Tuneup Tolerance (dBm) |
|------------|--------------|----------------------|-------|--------|------------------------|
|            |              | 9262                 | 9400  | 9538   |                        |
|            |              | 1852.4               | 1880  | 1907.6 |                        |
| Release 99 | RMC,12.2kbps | 22.77                | 21.78 | 21.88  | 23.0                   |
| HSDPA      | Subtest1     | 22.62                | 22.39 | 22.54  | 23.0                   |
|            | Subtest2     | 22.59                | 22.35 | 22.45  | 23.0                   |
|            | Subtest3     | 22.57                | 22.28 | 22.37  | 23.0                   |
|            | Subtest4     | 22.55                | 22.28 | 22.39  | 23.0                   |
| HSUPA      | Subtest1     | 19.76                | 19.60 | 19.68  | 20.0                   |
|            | Subtest2     | 20.60                | 20.34 | 20.36  | 21.0                   |
|            | Subtest3     | 20.78                | 20.54 | 20.59  | 21.0                   |
|            | Subtest4     | 20.59                | 20.33 | 20.35  | 21.0                   |
|            | Subtest5     | 22.59                | 22.34 | 22.45  | 23.0                   |
| HSPA+      | QPSK         | 22.52                | 22.31 | 22.42  | 23.0                   |
|            | 16QAM        | 22.50                | 22.26 | 22.40  | 22.5                   |
| DC-HSDPA   | Subtest1     | 22.51                | 22.36 | 22.41  | 23.0                   |
|            | Subtest2     | 22.22                | 22.00 | 22.15  | 22.5                   |
|            | Subtest3     | 21.45                | 21.29 | 21.43  | 21.5                   |
|            | Subtest4     | 22.05                | 21.83 | 21.99  | 22.5                   |

band IV

| Mode       |              | RF Output Power(dBm) |        |        | Tuneup Tolerance (dBm) |
|------------|--------------|----------------------|--------|--------|------------------------|
|            |              | 1312                 | 1413   | 1513   |                        |
|            |              | 1712.4               | 1732.6 | 1752.6 |                        |
| Release 99 | RMC,12.2kbps | 22.70                | 22.49  | 22.48  | 23.0                   |
| HSDPA      | Subtest1     | 22.76                | 22.52  | 22.55  | 23.0                   |
|            | Subtest2     | 22.70                | 22.49  | 22.49  | 23.0                   |
|            | Subtest3     | 22.63                | 22.42  | 22.43  | 23.0                   |
|            | Subtest4     | 22.65                | 22.43  | 22.43  | 23.0                   |
| HSUPA      | Subtest1     | 21.87                | 21.75  | 21.72  | 22.0                   |
|            | Subtest2     | 22.21                | 22.05  | 22.05  | 22.5                   |
|            | Subtest3     | 22.59                | 22.37  | 22.37  | 23.0                   |
|            | Subtest4     | 22.29                | 22.12  | 22.10  | 22.5                   |
|            | Subtest5     | 22.72                | 22.49  | 22.49  | 23.0                   |
| HSPA+      | QPSK         | 22.68                | 22.48  | 22.46  | 23.0                   |
|            | 16QAM        | 22.66                | 22.44  | 22.43  | 23.0                   |
| DC-HSDPA   | Subtest1     | 22.75                | 22.56  | 22.54  | 23.0                   |
|            | Subtest2     | 22.69                | 22.49  | 22.46  | 23.0                   |
|            | Subtest3     | 22.63                | 22.43  | 22.40  | 23.0                   |
|            | Subtest4     | 22.65                | 22.43  | 22.43  | 23.0                   |

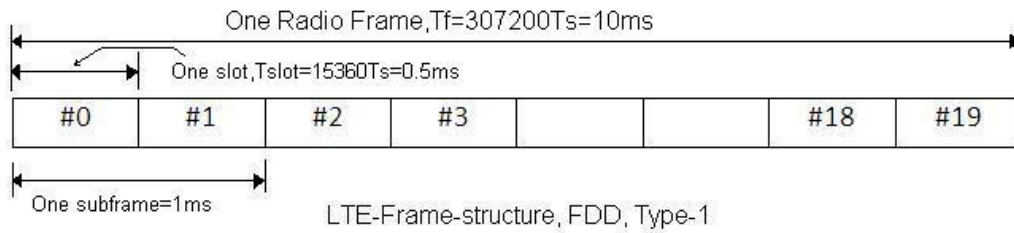
band V

| Mode       |               | RF Output Power(dBm) |       |       | Tuneup Tolerance (dBm) |
|------------|---------------|----------------------|-------|-------|------------------------|
|            |               | 4132                 | 4183  | 4233  |                        |
|            |               | 826.4                | 836.6 | 846.6 |                        |
| Release 99 | RMC, 12.2kbps | 21.70                | 21.78 | 21.70 | 22.0                   |
| HSDPA      | Subtest1      | 23.05                | 22.88 | 23.00 | 23.5                   |
|            | Subtest2      | 23.01                | 22.85 | 22.94 | 23.5                   |
|            | Subtest3      | 22.94                | 22.78 | 22.90 | 23.0                   |
|            | Subtest4      | 22.93                | 22.81 | 22.91 | 23.0                   |
| HSUPA      | Subtest1      | 20.30                | 20.28 | 20.32 | 20.5                   |
|            | Subtest2      | 20.88                | 20.78 | 20.85 | 21.0                   |
|            | Subtest3      | 21.10                | 21.00 | 21.12 | 21.5                   |
|            | Subtest4      | 20.34                | 20.31 | 20.40 | 20.5                   |
|            | Subtest5      | 22.98                | 22.88 | 22.96 | 23.0                   |
| HSPA+      | QPSK          | 22.51                | 22.59 | 22.50 | 23.0                   |
|            | 16QAM         | 22.46                | 22.55 | 22.49 | 23.0                   |
| DC-HSDPA   | Subtest1      | 22.33                | 22.42 | 22.30 | 22.5                   |
|            | Subtest2      | 22.04                | 21.89 | 22.03 | 22.5                   |
|            | Subtest3      | 21.74                | 21.59 | 21.73 | 22.0                   |
|            | Subtest4      | 21.69                | 21.52 | 21.61 | 22.0                   |

## 6.2.3 LTE

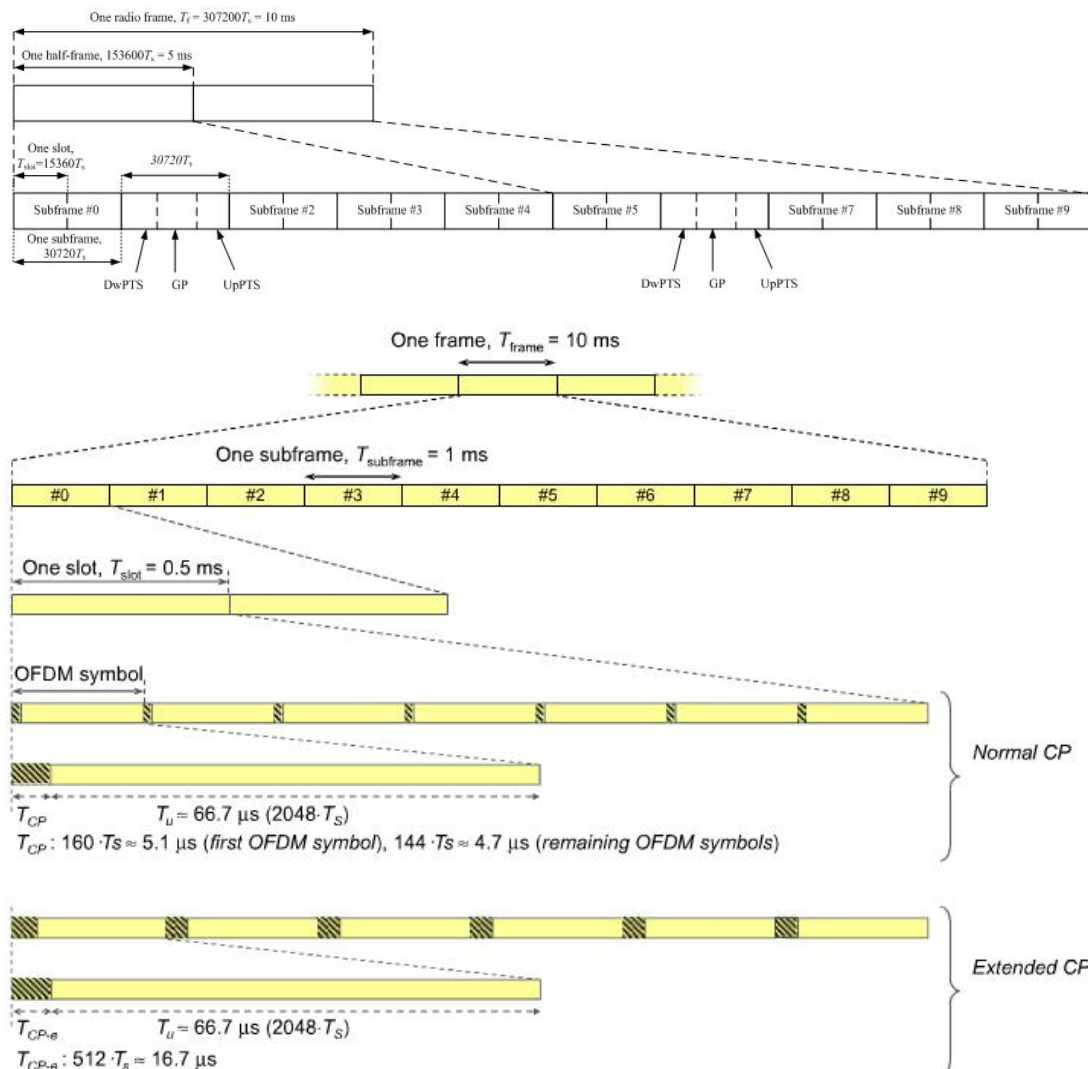
### General description:

#### FDD-LTE frame structure



Type 1 is used as LTE FDD frame structure. As shown in the figure above, an LTE TDD frame is made of total 20 slots, each of 0.5ms. Two consecutive time slots will form one subframe. 10 such subframes form one radio frame. One subframe duration is about 1 ms. and the duty cycle is inherent as 100%.

#### TDD-LTE frame structure





## Uplink-downlink configuration

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

## Special sub-frame configuration

| 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                              | $26336 \cdot T_s$                | $4384 \cdot T_s$               | $5120 \cdot T_s$                 | $7680 \cdot T_s$                   | $4384 \cdot T_s$               | $5120 \cdot T_s$                 |
| 5                              | $6592 \cdot T_s$                 |                                |                                  | $20480 \cdot T_s$                  |                                |                                  |
| 6                              | $19760 \cdot T_s$                |                                |                                  | $23040 \cdot T_s$                  |                                |                                  |
| 7                              | $21952 \cdot T_s$                |                                |                                  | -                                  | -                              | -                                |
| 8                              | $24144 \cdot T_s$                |                                |                                  | -                                  | -                              | -                                |

## Special sub-frame with cyclic prefix uplink

| Special sub-frame configuration    |     | Duty factor with normal cyclic prefix in uplink | Duty factor with extended cyclic prefix in uplink |
|------------------------------------|-----|-------------------------------------------------|---------------------------------------------------|
| Normal cyclic prefix in downlink   | 0~4 | 7.13%                                           | 8.33%                                             |
|                                    | 5~9 | 14.3%                                           | 16.7%                                             |
| Extended cyclic prefix in downlink | 0~3 | 7.13%                                           | 8.33%                                             |
|                                    | 4~7 | 14.3%                                           | 16.7%                                             |

One sub-frame is  $30720T_s=1\text{ms}$ , when UpPTS(uplink) in special sub-frame with extended cyclic prefix, duty factor =  $5120/30720=0.167$ . There are 5 sub-frames in half frame(3up link),so the final duty factor is  $(30720*3+5120)/(30720*5)=63.3\%$  which we used to evaluate the SAR compliance (worst case)



Note: SRTC perform SAR test with maximum duty factor equal to 63.3% by using uplink-downlink configuration 0.

### Licensed SISO1

Full Power

LTE Band2

| BW  | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |        |                   |
|-----|------------|---------|-----------|----------------------|-------|--------|-------------------|
|     |            |         |           | 18607                | 18900 | 19193  | Tune-up Tolerance |
|     |            |         |           | 1850.7               | 1880  | 1909.3 |                   |
| 1.4 | QPSK       | 1       | 0         | 23.07                | 23.14 | 23.14  | 23.5              |
|     |            | 1       | 3         | 23.00                | 23.08 | 22.93  | 23.5              |
|     |            | 1       | 5         | 22.85                | 23.06 | 22.95  | 23.5              |
|     |            | 3       | 0         | 23.10                | 23.01 | 22.90  | 23.5              |
|     |            | 3       | 1         | 23.12                | 23.04 | 22.99  | 23.5              |
|     |            | 3       | 3         | 23.02                | 22.96 | 22.93  | 23.5              |
|     |            | 6       | 0         | 21.99                | 21.85 | 22.04  | 22.5              |
|     | 16QAM      | 1       | 0         | 22.19                | 22.38 | 22.36  | 22.5              |
|     |            | 1       | 3         | 22.32                | 22.40 | 22.24  | 22.5              |
|     |            | 1       | 5         | 22.38                | 22.48 | 22.14  | 22.5              |
|     |            | 3       | 0         | 22.40                | 21.91 | 21.82  | 22.5              |
|     |            | 3       | 1         | 22.38                | 21.96 | 21.83  | 22.5              |
|     |            | 3       | 3         | 22.38                | 21.89 | 21.85  | 22.5              |
|     |            | 6       | 0         | 21.28                | 21.30 | 20.99  | 21.5              |
|     | 64QAM      | 1       | 0         | 21.38                | 20.30 | 21.34  | 21.5              |
|     |            | 1       | 3         | 22.01                | 20.21 | 21.39  | 22.5              |
|     |            | 1       | 5         | 21.40                | 20.35 | 21.35  | 21.5              |
|     |            | 3       | 0         | 21.47                | 20.96 | 21.52  | 22.0              |
|     |            | 3       | 1         | 21.39                | 21.00 | 21.58  | 22.0              |
|     |            | 3       | 3         | 21.40                | 21.00 | 21.63  | 22.0              |
|     |            | 6       | 0         | 18.98                | 19.19 | 18.88  | 19.5              |

## LTE Band2

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |        | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|--------|-------------------|
|    |            |         |           | 18615                | 18900 | 19185  |                   |
|    |            |         |           | 1851.5               | 1880  | 1908.5 |                   |
| 3  | QPSK       | 1       | 0         | 23.02                | 23.10 | 23.13  | 23.5              |
|    |            | 1       | 8         | 23.09                | 23.11 | 23.14  | 23.5              |
|    |            | 1       | 14        | 22.93                | 22.99 | 23.23  | 23.5              |
|    |            | 8       | 0         | 22.07                | 21.92 | 21.96  | 22.5              |
|    |            | 8       | 4         | 22.09                | 21.95 | 21.91  | 22.5              |
|    |            | 8       | 7         | 21.85                | 21.89 | 21.89  | 22.0              |
|    |            | 15      | 0         | 22.06                | 21.91 | 21.99  | 22.5              |
|    | 16QAM      | 1       | 0         | 22.97                | 22.20 | 22.08  | 23.0              |
|    |            | 1       | 8         | 23.06                | 22.23 | 22.03  | 23.5              |
|    |            | 1       | 14        | 22.92                | 22.19 | 22.09  | 23.0              |
|    |            | 8       | 0         | 21.38                | 21.06 | 21.04  | 21.5              |
|    |            | 8       | 4         | 21.41                | 21.09 | 21.11  | 21.5              |
|    |            | 8       | 7         | 21.26                | 21.04 | 21.08  | 21.5              |
|    |            | 15      | 0         | 21.39                | 20.94 | 21.09  | 21.5              |
|    | 64QAM      | 1       | 0         | 21.85                | 20.38 | 21.91  | 22.0              |
|    |            | 1       | 8         | 21.78                | 20.33 | 21.92  | 22.0              |
|    |            | 1       | 14        | 21.66                | 20.25 | 21.89  | 22.0              |
|    |            | 8       | 0         | 19.02                | 19.07 | 18.99  | 19.5              |
|    |            | 8       | 4         | 19.05                | 19.12 | 18.99  | 19.5              |
|    |            | 8       | 7         | 19.01                | 19.08 | 18.89  | 19.5              |
|    |            | 15      | 0         | 18.95                | 19.10 | 19.05  | 19.5              |

## LTE Band2

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |        | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|--------|-------------------|
|    |            |         |           | 18625                | 18900 | 19175  |                   |
|    |            |         |           | 1852.5               | 1880  | 1907.5 |                   |
| 5  | QPSK       | 1       | 0         | 22.97                | 22.95 | 22.95  | 23.0              |
|    |            | 1       | 12        | 22.94                | 22.94 | 23.01  | 23.5              |
|    |            | 1       | 24        | 22.87                | 22.89 | 22.94  | 23.0              |
|    |            | 12      | 0         | 21.86                | 21.90 | 22.02  | 22.5              |
|    |            | 12      | 7         | 21.89                | 21.87 | 21.94  | 22.0              |
|    |            | 12      | 13        | 21.93                | 21.98 | 21.91  | 22.0              |
|    |            | 25      | 0         | 21.95                | 22.00 | 21.97  | 22.0              |
|    | 16QAM      | 1       | 0         | 22.21                | 21.67 | 22.59  | 23.0              |
|    |            | 1       | 12        | 22.24                | 21.67 | 22.47  | 22.5              |
|    |            | 1       | 24        | 22.48                | 21.66 | 22.52  | 23.0              |
|    |            | 12      | 0         | 21.03                | 21.08 | 21.01  | 21.5              |
|    |            | 12      | 7         | 21.12                | 21.03 | 21.03  | 21.5              |
|    |            | 12      | 13        | 21.22                | 20.99 | 21.04  | 21.5              |
|    |            | 25      | 0         | 20.89                | 21.00 | 20.99  | 21.0              |
|    | 64QAM      | 1       | 0         | 20.63                | 20.54 | 22.16  | 22.5              |
|    |            | 1       | 12        | 21.06                | 20.50 | 22.06  | 22.5              |
|    |            | 1       | 24        | 21.12                | 20.53 | 22.06  | 22.5              |
|    |            | 12      | 0         | 19.05                | 19.06 | 19.04  | 19.5              |
|    |            | 12      | 7         | 19.14                | 19.22 | 19.21  | 19.5              |
|    |            | 12      | 13        | 18.97                | 19.08 | 19.03  | 19.5              |
|    |            | 25      | 0         | 18.97                | 18.99 | 19.06  | 19.5              |

## LTE Band2

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 18650                | 18900 | 19150 |                   |
|    |            |         |           | 1855                 | 1880  | 1905  |                   |
| 10 | QPSK       | 1       | 0         | 22.89                | 22.82 | 23.02 | 23.5              |
|    |            | 1       | 25        | 22.87                | 22.99 | 23.02 | 23.5              |
|    |            | 1       | 49        | 22.93                | 22.99 | 22.95 | 23.0              |
|    |            | 25      | 0         | 21.95                | 21.96 | 22.02 | 22.5              |
|    |            | 25      | 12        | 21.86                | 21.83 | 21.97 | 22.0              |
|    |            | 25      | 25        | 21.99                | 21.99 | 21.93 | 22.0              |
|    |            | 50      | 0         | 21.89                | 21.86 | 22.10 | 22.5              |
|    | 16QAM      | 1       | 0         | 22.43                | 22.52 | 22.40 | 23.0              |
|    |            | 1       | 25        | 22.58                | 22.59 | 22.34 | 23.0              |
|    |            | 1       | 49        | 22.59                | 22.64 | 22.36 | 23.0              |
|    |            | 25      | 0         | 21.45                | 21.09 | 21.31 | 21.5              |
|    |            | 25      | 12        | 21.35                | 21.07 | 21.31 | 21.5              |
|    |            | 25      | 25        | 21.28                | 21.15 | 21.28 | 21.5              |
|    |            | 50      | 0         | 21.17                | 21.01 | 21.17 | 21.5              |
|    | 64QAM      | 1       | 0         | 21.58                | 20.61 | 21.45 | 22.0              |
|    |            | 1       | 25        | 21.63                | 20.70 | 21.37 | 22.0              |
|    |            | 1       | 49        | 21.51                | 20.82 | 21.41 | 22.0              |
|    |            | 25      | 0         | 19.17                | 19.15 | 18.98 | 19.5              |
|    |            | 25      | 12        | 19.15                | 19.25 | 19.23 | 19.5              |
|    |            | 25      | 25        | 19.30                | 19.41 | 19.52 | 20.0              |
|    |            | 50      | 0         | 19.16                | 19.28 | 19.20 | 19.5              |

## LTE Band2

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |        | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|--------|-------------------|
|    |            |         |           | 18675                | 18900 | 19125  |                   |
|    |            |         |           | 1857.5               | 1880  | 1902.5 |                   |
| 15 | QPSK       | 1       | 0         | 23.11                | 23.00 | 22.63  | 23.5              |
|    |            | 1       | 37        | 22.92                | 23.06 | 22.78  | 23.5              |
|    |            | 1       | 74        | 22.96                | 23.13 | 22.73  | 23.5              |
|    |            | 36      | 0         | 21.95                | 21.87 | 21.90  | 22.0              |
|    |            | 36      | 29        | 21.90                | 21.91 | 22.16  | 22.5              |
|    |            | 36      | 30        | 21.91                | 21.92 | 22.17  | 22.5              |
|    |            | 75      | 0         | 21.95                | 21.89 | 21.96  | 22.0              |
|    | 16QAM      | 1       | 0         | 22.99                | 22.35 | 22.43  | 23.0              |
|    |            | 1       | 37        | 22.86                | 22.45 | 22.49  | 23.0              |
|    |            | 1       | 74        | 22.91                | 22.55 | 22.43  | 23.0              |
|    |            | 36      | 0         | 21.08                | 21.10 | 21.06  | 21.5              |
|    |            | 36      | 29        | 21.06                | 21.15 | 21.10  | 21.5              |
|    |            | 36      | 30        | 21.06                | 21.12 | 21.13  | 21.5              |
|    |            | 75      | 0         | 21.10                | 21.05 | 21.10  | 21.5              |
|    | 64QAM      | 1       | 0         | 21.70                | 20.72 | 22.19  | 22.5              |
|    |            | 1       | 37        | 21.56                | 20.83 | 22.07  | 22.5              |
|    |            | 1       | 74        | 21.53                | 20.83 | 22.16  | 22.5              |
|    |            | 36      | 0         | 18.99                | 19.15 | 19.03  | 19.5              |
|    |            | 36      | 29        | 18.96                | 19.21 | 19.32  | 19.5              |
|    |            | 36      | 30        | 18.97                | 19.22 | 19.35  | 19.5              |
|    |            | 75      | 0         | 19.03                | 19.16 | 19.28  | 19.5              |

## LTE Band2

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 18700                | 18900 | 19100 |                   |
|    |            |         |           | 1860                 | 1880  | 1900  |                   |
| 20 | QPSK       | 1       | 0         | 22.86                | 22.96 | 22.88 | 23.0              |
|    |            | 1       | 49        | 22.71                | 22.97 | 22.93 | 23.0              |
|    |            | 1       | 99        | 22.85                | 23.16 | 22.89 | 23.5              |
|    |            | 50      | 0         | 21.94                | 21.81 | 22.01 | 22.5              |
|    |            | 50      | 24        | 21.91                | 22.00 | 21.91 | 22.0              |
|    |            | 50      | 50        | 21.90                | 21.97 | 22.04 | 22.5              |
|    |            | 100     | 0         | 21.83                | 22.03 | 21.91 | 22.5              |
|    | 16QAM      | 1       | 0         | 22.18                | 21.85 | 22.93 | 23.0              |
|    |            | 1       | 49        | 21.94                | 21.95 | 22.91 | 23.0              |
|    |            | 1       | 99        | 21.98                | 22.00 | 22.92 | 23.0              |
|    |            | 50      | 0         | 21.09                | 20.92 | 21.16 | 21.5              |
|    |            | 50      | 24        | 21.17                | 21.11 | 21.18 | 21.5              |
|    |            | 50      | 50        | 21.03                | 21.06 | 21.18 | 21.5              |
|    |            | 100     | 0         | 20.98                | 21.04 | 21.15 | 21.5              |
|    | 64QAM      | 1       | 0         | 21.27                | 20.99 | 21.98 | 22.0              |
|    |            | 1       | 49        | 21.21                | 21.03 | 21.94 | 22.0              |
|    |            | 1       | 99        | 21.08                | 21.26 | 21.98 | 22.0              |
|    |            | 50      | 0         | 19.20                | 19.28 | 19.27 | 19.5              |
|    |            | 50      | 24        | 19.10                | 19.15 | 19.10 | 19.5              |
|    |            | 50      | 50        | 19.40                | 19.33 | 19.50 | 19.5              |
|    |            | 100     | 0         | 19.28                | 19.28 | 19.39 | 19.5              |

## LTE Band4

| BW  | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |        | Tune-up Tolerance |
|-----|------------|---------|-----------|----------------------|-------|--------|-------------------|
|     |            |         |           | 18607                | 18900 | 19193  |                   |
|     |            |         |           | 1850.7               | 1880  | 1909.3 |                   |
| 1.4 | QPSK       | 1       | 0         | 23.22                | 23.39 | 23.11  | 23.5              |
|     |            | 1       | 3         | 23.16                | 23.43 | 23.22  | 23.5              |
|     |            | 1       | 5         | 23.11                | 23.40 | 23.22  | 23.5              |
|     |            | 3       | 0         | 23.28                | 23.39 | 23.11  | 23.5              |
|     |            | 3       | 1         | 23.32                | 23.44 | 23.15  | 23.5              |
|     |            | 3       | 3         | 23.27                | 23.37 | 23.09  | 23.5              |
|     |            | 6       | 0         | 22.26                | 22.39 | 22.08  | 22.5              |
|     | 16QAM      | 1       | 0         | 22.48                | 23.09 | 22.35  | 23.5              |
|     |            | 1       | 3         | 22.49                | 23.13 | 22.35  | 23.5              |
|     |            | 1       | 5         | 22.45                | 23.08 | 22.41  | 23.5              |
|     |            | 3       | 0         | 22.60                | 22.54 | 21.89  | 23.0              |
|     |            | 3       | 1         | 22.67                | 22.59 | 21.94  | 23.0              |
|     |            | 3       | 3         | 22.56                | 22.54 | 21.88  | 23.0              |
|     |            | 6       | 0         | 21.85                | 21.78 | 21.32  | 22.0              |
|     | 64QAM      | 1       | 0         | 21.58                | 21.07 | 22.00  | 22.0              |
|     |            | 1       | 3         | 21.66                | 21.09 | 22.08  | 22.5              |
|     |            | 1       | 5         | 21.69                | 21.10 | 21.98  | 22.0              |
|     |            | 3       | 0         | 21.63                | 21.54 | 21.69  | 22.0              |
|     |            | 3       | 1         | 21.72                | 21.44 | 21.58  | 22.0              |
|     |            | 3       | 3         | 21.63                | 21.46 | 21.58  | 22.0              |
|     |            | 6       | 0         | 20.44                | 20.57 | 20.14  | 21.0              |

## LTE Band4

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |        |        | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|--------|--------|-------------------|
|    |            |         |           | 19965                | 20175  | 20385  |                   |
|    |            |         |           | 1711.5               | 1732.5 | 1753.5 |                   |
| 3  | QPSK       | 1       | 0         | 23.26                | 23.36  | 23.16  | 23.5              |
|    |            | 1       | 8         | 23.31                | 23.43  | 23.18  | 23.5              |
|    |            | 1       | 14        | 23.37                | 23.40  | 23.11  | 23.5              |
|    |            | 8       | 0         | 22.35                | 22.31  | 22.04  | 22.5              |
|    |            | 8       | 4         | 22.29                | 22.34  | 22.04  | 22.5              |
|    |            | 8       | 7         | 22.39                | 22.31  | 22.10  | 22.5              |
|    |            | 15      | 0         | 22.26                | 22.31  | 22.15  | 22.5              |
|    | 16QAM      | 1       | 0         | 23.26                | 22.85  | 22.51  | 23.5              |
|    |            | 1       | 8         | 23.41                | 22.82  | 22.34  | 23.5              |
|    |            | 1       | 14        | 23.39                | 22.81  | 22.43  | 23.5              |
|    |            | 8       | 0         | 21.57                | 21.59  | 21.38  | 22.0              |
|    |            | 8       | 4         | 21.63                | 21.47  | 21.42  | 22.0              |
|    |            | 8       | 7         | 21.58                | 21.50  | 21.47  | 22.0              |
|    |            | 15      | 0         | 21.60                | 21.64  | 21.34  | 22.0              |
|    | 64QAM      | 1       | 0         | 22.05                | 21.08  | 22.09  | 22.5              |
|    |            | 1       | 8         | 22.06                | 21.11  | 22.12  | 22.5              |
|    |            | 1       | 14        | 22.14                | 21.13  | 22.02  | 22.5              |
|    |            | 8       | 0         | 20.48                | 20.47  | 20.30  | 20.5              |
|    |            | 8       | 4         | 20.42                | 20.47  | 20.19  | 20.5              |
|    |            | 8       | 7         | 20.53                | 20.51  | 20.22  | 21.0              |
|    |            | 15      | 0         | 20.43                | 20.68  | 20.27  | 21.0              |

## LTE Band4

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |        |        | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|--------|--------|-------------------|
|    |            |         |           | 19975                | 20175  | 20375  |                   |
|    |            |         |           | 1712.5               | 1732.5 | 1752.5 |                   |
| 5  | QPSK       | 1       | 0         | 23.36                | 23.23  | 23.19  | 23.5              |
|    |            | 1       | 12        | 23.48                | 23.20  | 23.29  | 23.5              |
|    |            | 1       | 24        | 23.36                | 23.16  | 23.34  | 23.5              |
|    |            | 12      | 0         | 22.30                | 22.41  | 22.22  | 22.5              |
|    |            | 12      | 7         | 22.38                | 22.38  | 22.12  | 22.5              |
|    |            | 12      | 13        | 22.31                | 22.40  | 22.06  | 22.5              |
|    |            | 25      | 0         | 22.38                | 22.42  | 22.14  | 22.5              |
|    | 16QAM      | 1       | 0         | 21.96                | 22.59  | 22.11  | 23.0              |
|    |            | 1       | 12        | 21.91                | 22.55  | 22.10  | 23.0              |
|    |            | 1       | 24        | 21.84                | 22.94  | 22.43  | 23.0              |
|    |            | 12      | 0         | 21.34                | 21.43  | 21.24  | 21.5              |
|    |            | 12      | 7         | 21.45                | 21.46  | 21.22  | 21.5              |
|    |            | 12      | 13        | 21.47                | 21.41  | 21.24  | 21.5              |
|    |            | 25      | 0         | 21.71                | 21.45  | 21.32  | 22.0              |
|    | 64QAM      | 1       | 0         | 21.07                | 22.62  | 21.39  | 23.0              |
|    |            | 1       | 12        | 21.19                | 22.59  | 21.30  | 23.0              |
|    |            | 1       | 24        | 21.07                | 22.53  | 21.38  | 23.0              |
|    |            | 12      | 0         | 20.57                | 20.50  | 20.27  | 21.0              |
|    |            | 12      | 7         | 20.69                | 20.51  | 20.27  | 21.0              |
|    |            | 12      | 13        | 20.63                | 20.50  | 20.17  | 21.0              |
|    |            | 25      | 0         | 20.59                | 20.64  | 20.35  | 21.0              |

## LTE Band4

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |        |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|--------|-------|-------------------|
|    |            |         |           | 20000                | 20175  | 20350 |                   |
|    |            |         |           | 1715                 | 1732.5 | 1750  |                   |
| 10 | QPSK       | 1       | 0         | 23.30                | 23.57  | 23.36 | 24.0              |
|    |            | 1       | 25        | 23.31                | 23.59  | 23.44 | 24.0              |
|    |            | 1       | 49        | 23.41                | 23.50  | 23.29 | 23.5              |
|    |            | 25      | 0         | 22.50                | 22.23  | 22.17 | 22.5              |
|    |            | 25      | 12        | 22.17                | 22.30  | 22.29 | 22.5              |
|    |            | 25      | 25        | 22.38                | 22.25  | 22.20 | 22.5              |
|    |            | 50      | 0         | 22.36                | 22.46  | 22.19 | 22.5              |
|    | 16QAM      | 1       | 0         | 23.29                | 22.82  | 22.39 | 23.5              |
|    |            | 1       | 25        | 23.25                | 22.79  | 22.67 | 23.5              |
|    |            | 1       | 49        | 23.31                | 22.65  | 22.49 | 23.5              |
|    |            | 25      | 0         | 21.66                | 21.61  | 21.39 | 22.0              |
|    |            | 25      | 12        | 21.50                | 21.56  | 21.53 | 22.0              |
|    |            | 25      | 25        | 21.55                | 21.51  | 21.43 | 22.0              |
|    |            | 50      | 0         | 21.46                | 21.49  | 21.41 | 21.5              |
|    | 64QAM      | 1       | 0         | 22.06                | 21.10  | 21.69 | 22.5              |
|    |            | 1       | 25        | 21.98                | 21.17  | 21.86 | 22.0              |
|    |            | 1       | 49        | 22.17                | 21.07  | 21.74 | 22.5              |
|    |            | 25      | 0         | 20.51                | 20.73  | 20.27 | 21.0              |
|    |            | 25      | 12        | 20.40                | 20.67  | 20.36 | 21.0              |
|    |            | 25      | 25        | 20.55                | 20.55  | 20.32 | 21.0              |
|    |            | 50      | 0         | 20.51                | 20.54  | 20.47 | 21.0              |

## LTE Band4

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |        |        | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|--------|--------|-------------------|
|    |            |         |           | 20025                | 20175  | 20325  |                   |
|    |            |         |           | 1717.5               | 1732.5 | 1747.5 |                   |
| 15 | QPSK       | 1       | 0         | 23.31                | 23.64  | 23.14  | 24.0              |
|    |            | 1       | 37        | 23.41                | 23.61  | 23.01  | 24.0              |
|    |            | 1       | 74        | 23.30                | 23.48  | 23.12  | 23.5              |
|    |            | 36      | 0         | 22.32                | 22.28  | 22.13  | 22.5              |
|    |            | 36      | 29        | 22.25                | 22.25  | 22.16  | 22.5              |
|    |            | 36      | 30        | 22.34                | 22.26  | 22.27  | 22.5              |
|    |            | 75      | 0         | 22.29                | 22.27  | 22.10  | 22.5              |
|    | 16QAM      | 1       | 0         | 22.55                | 22.87  | 22.55  | 23.0              |
|    |            | 1       | 37        | 22.62                | 22.83  | 22.48  | 23.0              |
|    |            | 1       | 74        | 22.60                | 22.67  | 22.43  | 23.0              |
|    |            | 36      | 0         | 21.39                | 21.61  | 21.19  | 22.0              |
|    |            | 36      | 29        | 21.59                | 21.50  | 21.37  | 22.0              |
|    |            | 36      | 30        | 21.60                | 21.51  | 21.37  | 22.0              |
|    |            | 75      | 0         | 21.53                | 21.54  | 21.19  | 22.0              |
|    | 64QAM      | 1       | 0         | 22.06                | 21.16  | 22.26  | 22.5              |
|    |            | 1       | 37        | 22.12                | 21.16  | 22.16  | 22.5              |
|    |            | 1       | 74        | 22.07                | 21.03  | 22.18  | 22.5              |
|    |            | 36      | 0         | 20.44                | 20.68  | 20.21  | 21.0              |
|    |            | 36      | 29        | 20.59                | 20.70  | 20.35  | 21.0              |
|    |            | 36      | 30        | 20.56                | 20.58  | 20.35  | 21.0              |
|    |            | 75      | 0         | 20.55                | 20.65  | 20.25  | 21.0              |

## LTE Band4

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |        |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|--------|-------|-------------------|
|    |            |         |           | 20050                | 20175  | 20300 |                   |
|    |            |         |           | 1720                 | 1732.5 | 1745  |                   |
| 20 | QPSK       | 1       | 0         | 23.32                | 23.31  | 23.27 | 23.5              |
|    |            | 1       | 49        | 23.35                | 23.30  | 23.07 | 23.5              |
|    |            | 1       | 99        | 23.21                | 23.12  | 23.18 | 23.5              |
|    |            | 50      | 0         | 22.47                | 22.42  | 22.11 | 22.5              |
|    |            | 50      | 24        | 22.38                | 22.31  | 22.15 | 22.5              |
|    |            | 50      | 50        | 22.35                | 22.37  | 22.29 | 22.5              |
|    |            | 100     | 0         | 22.21                | 22.36  | 22.15 | 22.5              |
|    | 16QAM      | 1       | 0         | 22.48                | 22.65  | 22.58 | 23.0              |
|    |            | 1       | 49        | 22.51                | 22.68  | 22.37 | 23.0              |
|    |            | 1       | 99        | 22.44                | 22.53  | 22.43 | 23.0              |
|    |            | 50      | 0         | 21.47                | 21.57  | 21.29 | 22.0              |
|    |            | 50      | 24        | 21.60                | 21.57  | 21.24 | 22.0              |
|    |            | 50      | 50        | 21.59                | 21.36  | 21.27 | 22.0              |
|    |            | 100     | 0         | 21.59                | 21.55  | 21.32 | 22.0              |
|    | 64QAM      | 1       | 0         | 21.52                | 22.34  | 22.78 | 23.0              |
|    |            | 1       | 49        | 21.58                | 22.28  | 22.60 | 23.0              |
|    |            | 1       | 99        | 21.55                | 22.08  | 22.69 | 23.0              |
|    |            | 50      | 0         | 20.47                | 20.46  | 20.34 | 20.5              |
|    |            | 50      | 24        | 20.60                | 20.44  | 20.25 | 21.0              |
|    |            | 50      | 50        | 20.55                | 20.45  | 20.51 | 21.0              |
|    |            | 100     | 0         | 20.51                | 20.56  | 20.27 | 21.0              |

## LTE Band5

| BW  | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|-----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|     |            |         |           | 20407                | 20525 | 20643 |                   |
|     |            |         |           | 824.7                | 836.5 | 848.3 |                   |
| 1.4 | QPSK       | 1       | 0         | 23.68                | 23.80 | 23.51 | 24.0              |
|     |            | 1       | 3         | 23.64                | 23.75 | 23.51 | 24.0              |
|     |            | 1       | 5         | 23.61                | 23.79 | 23.56 | 24.0              |
|     |            | 3       | 0         | 23.75                | 23.72 | 23.61 | 24.0              |
|     |            | 3       | 1         | 23.81                | 23.75 | 23.62 | 24.0              |
|     |            | 3       | 3         | 23.66                | 23.81 | 23.55 | 24.0              |
|     |            | 6       | 0         | 22.75                | 22.72 | 22.63 | 23.0              |
|     | 16QAM      | 1       | 0         | 22.79                | 23.33 | 22.88 | 23.5              |
|     |            | 1       | 3         | 22.77                | 23.27 | 22.92 | 23.5              |
|     |            | 1       | 5         | 22.90                | 23.22 | 22.89 | 23.5              |
|     |            | 3       | 0         | 23.00                | 22.87 | 22.17 | 23.0              |
|     |            | 3       | 1         | 22.97                | 22.92 | 22.35 | 23.0              |
|     |            | 3       | 3         | 22.81                | 22.95 | 22.28 | 23.0              |
|     |            | 6       | 0         | 21.91                | 21.98 | 21.74 | 22.0              |
|     | 64QAM      | 1       | 0         | 21.82                | 21.55 | 21.98 | 22.0              |
|     |            | 1       | 3         | 21.86                | 21.51 | 22.10 | 22.5              |
|     |            | 1       | 5         | 21.89                | 21.48 | 22.07 | 22.5              |
|     |            | 3       | 0         | 22.04                | 21.59 | 22.16 | 22.5              |
|     |            | 3       | 1         | 21.83                | 21.64 | 22.18 | 22.5              |
|     |            | 3       | 3         | 21.94                | 21.67 | 22.12 | 22.5              |
|     |            | 6       | 0         | 20.84                | 20.74 | 20.60 | 21.0              |

## LTE Band5

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 20415                | 20525 | 20635 |                   |
|    |            |         |           | 825.5                | 836.5 | 847.5 |                   |
| 3  | QPSK       | 1       | 0         | 23.73                | 23.75 | 23.51 | 24.0              |
|    |            | 1       | 8         | 23.80                | 23.78 | 23.55 | 24.0              |
|    |            | 1       | 14        | 23.75                | 23.76 | 23.53 | 24.0              |
|    |            | 8       | 0         | 22.71                | 22.73 | 22.55 | 23.0              |
|    |            | 8       | 4         | 22.79                | 22.61 | 22.64 | 23.0              |
|    |            | 8       | 7         | 22.75                | 22.77 | 22.66 | 23.0              |
|    |            | 15      | 0         | 22.74                | 22.73 | 22.60 | 23.0              |
|    | 16QAM      | 1       | 0         | 22.81                | 23.23 | 22.49 | 23.5              |
|    |            | 1       | 8         | 22.77                | 23.15 | 22.44 | 23.5              |
|    |            | 1       | 14        | 22.71                | 23.24 | 22.45 | 23.5              |
|    |            | 8       | 0         | 21.80                | 21.89 | 21.59 | 22.0              |
|    |            | 8       | 4         | 21.84                | 21.80 | 21.68 | 22.0              |
|    |            | 8       | 7         | 21.96                | 21.77 | 21.58 | 22.0              |
|    |            | 15      | 0         | 21.93                | 21.71 | 21.64 | 22.0              |
|    | 64QAM      | 1       | 0         | 22.31                | 21.41 | 22.54 | 23.0              |
|    |            | 1       | 8         | 22.42                | 21.52 | 22.53 | 23.0              |
|    |            | 1       | 14        | 22.39                | 21.60 | 22.44 | 22.5              |
|    |            | 8       | 0         | 20.76                | 20.85 | 20.74 | 21.0              |
|    |            | 8       | 4         | 20.83                | 20.69 | 20.86 | 21.0              |
|    |            | 8       | 7         | 20.92                | 20.66 | 20.80 | 21.0              |
|    |            | 15      | 0         | 20.86                | 20.82 | 20.66 | 21.0              |

## LTE Band5

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 20425                | 20525 | 20625 |                   |
|    |            |         |           | 826.5                | 836.5 | 846.5 |                   |
| 5  | QPSK       | 1       | 0         | 23.80                | 23.59 | 23.51 | 24.0              |
|    |            | 1       | 12        | 23.82                | 23.59 | 23.70 | 24.0              |
|    |            | 1       | 24        | 23.86                | 23.47 | 23.75 | 24.0              |
|    |            | 12      | 0         | 22.74                | 22.74 | 22.59 | 23.0              |
|    |            | 12      | 7         | 22.73                | 22.73 | 22.68 | 23.0              |
|    |            | 12      | 13        | 22.69                | 22.59 | 22.59 | 23.0              |
|    |            | 25      | 0         | 22.72                | 22.59 | 22.68 | 23.0              |
|    | 16QAM      | 1       | 0         | 22.31                | 22.73 | 22.40 | 23.0              |
|    |            | 1       | 12        | 22.28                | 22.66 | 22.40 | 23.0              |
|    |            | 1       | 24        | 22.31                | 22.82 | 22.40 | 23.0              |
|    |            | 12      | 0         | 21.53                | 21.47 | 21.54 | 22.0              |
|    |            | 12      | 7         | 21.68                | 21.55 | 21.66 | 22.0              |
|    |            | 12      | 13        | 21.71                | 21.47 | 21.58 | 22.0              |
|    |            | 25      | 0         | 21.98                | 21.66 | 21.71 | 22.0              |
|    | 64QAM      | 1       | 0         | 21.41                | 21.86 | 21.60 | 22.0              |
|    |            | 1       | 12        | 21.47                | 21.75 | 21.74 | 22.0              |
|    |            | 1       | 24        | 21.44                | 21.81 | 21.72 | 22.0              |
|    |            | 12      | 0         | 20.83                | 20.88 | 20.55 | 21.0              |
|    |            | 12      | 7         | 20.91                | 20.62 | 20.67 | 21.0              |
|    |            | 12      | 13        | 20.94                | 20.60 | 20.56 | 21.0              |
|    |            | 25      | 0         | 21.04                | 20.78 | 20.80 | 21.5              |



## LTE Band5

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 20450                | 20525 | 20600 |                   |
|    |            |         |           | 829                  | 836.5 | 844   |                   |
| 10 | QPSK       | 1       | 0         | 23.82                | 23.95 | 23.79 | 24.0              |
|    |            | 1       | 25        | 23.85                | 23.88 | 23.64 | 24.0              |
|    |            | 1       | 49        | 23.71                | 23.87 | 23.71 | 24.0              |
|    |            | 25      | 0         | 22.80                | 22.70 | 22.60 | 23.0              |
|    |            | 25      | 12        | 22.80                | 22.56 | 22.55 | 23.0              |
|    |            | 25      | 25        | 22.65                | 22.56 | 22.59 | 23.0              |
|    |            | 50      | 0         | 22.87                | 22.68 | 22.60 | 23.0              |
|    | 16QAM      | 1       | 0         | 23.70                | 23.12 | 22.87 | 24.0              |
|    |            | 1       | 25        | 23.81                | 23.08 | 22.84 | 24.0              |
|    |            | 1       | 49        | 23.67                | 23.03 | 22.83 | 24.0              |
|    |            | 25      | 0         | 21.93                | 21.84 | 21.72 | 22.0              |
|    |            | 25      | 12        | 21.91                | 21.82 | 21.69 | 22.0              |
|    |            | 25      | 25        | 21.75                | 21.77 | 21.73 | 22.0              |
|    |            | 50      | 0         | 21.84                | 21.80 | 21.59 | 22.0              |
|    | 64QAM      | 1       | 0         | 22.35                | 21.38 | 21.99 | 22.5              |
|    |            | 1       | 25        | 22.49                | 21.37 | 21.73 | 22.5              |
|    |            | 1       | 49        | 22.30                | 21.27 | 21.93 | 22.5              |
|    |            | 25      | 0         | 20.87                | 21.00 | 21.01 | 21.5              |
|    |            | 25      | 12        | 20.96                | 20.82 | 20.57 | 21.0              |
|    |            | 25      | 25        | 20.94                | 20.91 | 20.63 | 21.0              |
|    |            | 50      | 0         | 20.84                | 20.77 | 20.71 | 21.0              |

## LTE Band7

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |        | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|--------|-------------------|
|    |            |         |           | 20775                | 21100 | 21425  |                   |
|    |            |         |           | 2502.5               | 2535  | 2567.5 |                   |
| 5  | QPSK       | 1       | 0         | 23.33                | 23.02 | 23.31  | 23.5              |
|    |            | 1       | 12        | 23.29                | 22.90 | 23.19  | 23.5              |
|    |            | 1       | 24        | 23.30                | 22.91 | 23.25  | 23.5              |
|    |            | 12      | 0         | 22.57                | 22.04 | 22.16  | 23.0              |
|    |            | 12      | 7         | 22.41                | 21.93 | 22.12  | 22.5              |
|    |            | 12      | 13        | 22.35                | 21.96 | 22.04  | 22.5              |
|    |            | 25      | 0         | 22.45                | 21.95 | 22.11  | 22.5              |
|    | 16QAM      | 1       | 0         | 21.96                | 22.60 | 21.83  | 23.0              |
|    |            | 1       | 12        | 22.03                | 22.56 | 22.16  | 23.0              |
|    |            | 1       | 24        | 21.97                | 22.64 | 21.84  | 23.0              |
|    |            | 12      | 0         | 21.43                | 21.00 | 21.00  | 21.5              |
|    |            | 12      | 7         | 21.40                | 20.99 | 20.97  | 21.5              |
|    |            | 12      | 13        | 21.36                | 20.97 | 20.89  | 21.5              |
|    |            | 25      | 0         | 21.40                | 20.97 | 21.01  | 21.5              |
|    | 64QAM      | 1       | 0         | 20.96                | 22.09 | 21.20  | 22.5              |
|    |            | 1       | 12        | 20.96                | 22.01 | 21.28  | 22.5              |
|    |            | 1       | 24        | 20.88                | 21.97 | 21.25  | 22.0              |
|    |            | 12      | 0         | 20.43                | 19.59 | 20.00  | 20.5              |
|    |            | 12      | 7         | 20.14                | 19.56 | 20.20  | 20.5              |
|    |            | 12      | 13        | 20.12                | 19.60 | 19.55  | 20.5              |
|    |            | 25      | 0         | 20.27                | 19.71 | 20.12  | 20.5              |

## LTE Band7

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 20800                | 21100 | 21400 |                   |
|    |            |         |           | 2505                 | 2535  | 2565  |                   |
| 10 | QPSK       | 1       | 0         | 23.62                | 23.23 | 22.94 | 24.0              |
|    |            | 1       | 25        | 23.49                | 23.12 | 23.23 | 23.5              |
|    |            | 1       | 49        | 23.47                | 23.16 | 23.12 | 23.5              |
|    |            | 25      | 0         | 22.33                | 21.97 | 21.92 | 22.5              |
|    |            | 25      | 12        | 22.43                | 22.06 | 22.04 | 22.5              |
|    |            | 25      | 25        | 22.41                | 22.11 | 22.00 | 22.5              |
|    |            | 50      | 0         | 22.49                | 21.97 | 21.97 | 22.5              |
|    | 16QAM      | 1       | 0         | 23.20                | 22.78 | 21.89 | 23.5              |
|    |            | 1       | 25        | 23.12                | 22.71 | 21.83 | 23.5              |
|    |            | 1       | 49        | 23.11                | 22.64 | 21.79 | 23.5              |
|    |            | 25      | 0         | 21.55                | 21.10 | 21.12 | 22.0              |
|    |            | 25      | 12        | 21.54                | 21.10 | 21.13 | 22.0              |
|    |            | 25      | 25        | 21.52                | 21.04 | 21.21 | 22.0              |
|    |            | 50      | 0         | 21.44                | 21.21 | 21.13 | 21.5              |
|    | 64QAM      | 1       | 0         | 22.17                | 20.94 | 21.93 | 22.5              |
|    |            | 1       | 25        | 22.08                | 20.85 | 21.96 | 22.5              |
|    |            | 1       | 49        | 21.86                | 20.83 | 21.98 | 22.0              |
|    |            | 25      | 0         | 20.26                | 19.87 | 19.89 | 20.5              |
|    |            | 25      | 12        | 19.90                | 19.74 | 19.68 | 20.0              |
|    |            | 25      | 25        | 19.83                | 19.75 | 20.13 | 20.5              |
|    |            | 50      | 0         | 20.09                | 19.63 | 19.62 | 20.5              |

## LTE Band7

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |        | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|--------|-------------------|
|    |            |         |           | 20825                | 21100 | 21375  |                   |
|    |            |         |           | 2507.5               | 2535  | 2562.5 |                   |
| 15 | QPSK       | 1       | 0         | 23.60                | 23.27 | 22.88  | 24.0              |
|    |            | 1       | 37        | 23.49                | 23.27 | 22.79  | 23.5              |
|    |            | 1       | 74        | 23.30                | 23.25 | 22.92  | 23.5              |
|    |            | 36      | 0         | 22.44                | 22.20 | 22.07  | 22.5              |
|    |            | 36      | 29        | 22.31                | 22.06 | 22.12  | 22.5              |
|    |            | 36      | 30        | 22.21                | 22.07 | 22.02  | 22.5              |
|    |            | 75      | 0         | 22.45                | 22.09 | 21.97  | 22.5              |
|    | 16QAM      | 1       | 0         | 23.35                | 22.58 | 22.52  | 23.5              |
|    |            | 1       | 37        | 23.15                | 22.65 | 22.45  | 23.5              |
|    |            | 1       | 74        | 23.03                | 22.52 | 22.59  | 23.5              |
|    |            | 36      | 0         | 21.50                | 21.16 | 21.02  | 21.5              |
|    |            | 36      | 29        | 21.43                | 21.20 | 21.00  | 21.5              |
|    |            | 36      | 30        | 21.45                | 21.21 | 21.00  | 21.5              |
|    |            | 75      | 0         | 21.48                | 21.21 | 21.03  | 21.5              |
|    | 64QAM      | 1       | 0         | 22.06                | 20.80 | 21.86  | 22.5              |
|    |            | 1       | 37        | 21.90                | 20.72 | 21.74  | 22.0              |
|    |            | 1       | 74        | 21.66                | 20.72 | 21.90  | 22.0              |
|    |            | 36      | 0         | 20.03                | 19.66 | 19.60  | 20.5              |
|    |            | 36      | 29        | 19.82                | 19.71 | 19.59  | 20.0              |
|    |            | 36      | 30        | 20.07                | 19.72 | 19.60  | 20.5              |
|    |            | 75      | 0         | 19.98                | 19.57 | 20.08  | 20.5              |

## LTE Band7

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 20850                | 21100 | 21350 |                   |
|    |            |         |           | 2510                 | 2535  | 2560  |                   |
| 20 | QPSK       | 1       | 0         | 23.34                | 23.14 | 22.96 | 23.5              |
|    |            | 1       | 49        | 23.09                | 22.97 | 22.99 | 23.5              |
|    |            | 1       | 99        | 22.93                | 23.06 | 22.94 | 23.5              |
|    |            | 50      | 0         | 22.39                | 22.10 | 22.06 | 22.5              |
|    |            | 50      | 24        | 22.24                | 21.90 | 22.10 | 22.5              |
|    |            | 50      | 50        | 22.11                | 21.89 | 22.09 | 22.5              |
|    |            | 100     | 0         | 22.14                | 22.06 | 22.06 | 22.5              |
|    | 16QAM      | 1       | 0         | 22.52                | 22.19 | 22.26 | 23.0              |
|    |            | 1       | 49        | 22.31                | 22.04 | 22.32 | 22.5              |
|    |            | 1       | 99        | 22.14                | 22.23 | 22.31 | 22.5              |
|    |            | 50      | 0         | 21.50                | 21.16 | 21.08 | 21.5              |
|    |            | 50      | 24        | 21.45                | 20.98 | 21.00 | 21.5              |
|    |            | 50      | 50        | 21.25                | 21.07 | 21.04 | 21.5              |
|    |            | 100     | 0         | 21.27                | 21.00 | 21.07 | 21.5              |
|    | 64QAM      | 1       | 0         | 21.87                | 21.85 | 22.25 | 22.5              |
|    |            | 1       | 49        | 21.68                | 21.72 | 22.28 | 22.5              |
|    |            | 1       | 99        | 21.51                | 21.78 | 22.40 | 22.5              |
|    |            | 50      | 0         | 19.97                | 19.63 | 19.75 | 20.0              |
|    |            | 50      | 24        | 19.94                | 19.37 | 19.62 | 20.0              |
|    |            | 50      | 50        | 19.75                | 19.49 | 19.46 | 20.0              |
|    |            | 100     | 0         | 19.85                | 19.57 | 19.62 | 20.0              |

## LTE Band13

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 23205                | 23230 | 23255 |                   |
|    |            |         |           | 779.5                | 782   | 784.5 |                   |
| 5  | QPSK       | 1       | 0         | 23.55                | 23.56 | 23.83 | 24.0              |
|    |            | 1       | 12        | 23.60                | 23.64 | 23.90 | 24.0              |
|    |            | 1       | 24        | 23.63                | 23.74 | 23.92 | 24.0              |
|    |            | 12      | 0         | 22.57                | 22.65 | 22.85 | 23.0              |
|    |            | 12      | 7         | 22.66                | 22.73 | 22.72 | 23.0              |
|    |            | 12      | 13        | 22.58                | 22.67 | 22.73 | 23.0              |
|    |            | 25      | 0         | 22.63                | 22.71 | 22.75 | 23.0              |
|    | 16QAM      | 1       | 0         | 22.33                | 23.40 | 22.50 | 23.5              |
|    |            | 1       | 12        | 22.43                | 22.68 | 22.48 | 23.0              |
|    |            | 1       | 24        | 22.37                | 22.80 | 22.46 | 23.0              |
|    |            | 12      | 0         | 21.83                | 21.44 | 21.97 | 22.0              |
|    |            | 12      | 7         | 21.68                | 21.53 | 21.91 | 22.0              |
|    |            | 12      | 13        | 21.63                | 21.76 | 21.78 | 22.0              |
|    |            | 25      | 0         | 21.77                | 21.67 | 21.89 | 22.0              |
|    | 64QAM      | 1       | 0         | 21.45                | 21.74 | 21.65 | 22.0              |
|    |            | 1       | 12        | 21.30                | 21.83 | 21.87 | 22.0              |
|    |            | 1       | 24        | 21.20                | 21.96 | 21.72 | 22.0              |
|    |            | 12      | 0         | 20.47                | 20.12 | 20.47 | 20.5              |
|    |            | 12      | 7         | 20.38                | 20.10 | 20.35 | 20.5              |
|    |            | 12      | 13        | 20.36                | 20.33 | 20.52 | 21.0              |
|    |            | 25      | 0         | 20.13                | 20.04 | 20.55 | 21.0              |

## LTE Band13

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |                   |
|----|------------|---------|-----------|----------------------|-------------------|
|    |            |         |           | 23230                | Tune-up Tolerance |
|    |            |         |           | 782                  |                   |
| 10 | QPSK       | 1       | 0         | 23.60                | 24.0              |
|    |            | 1       | 25        | 23.71                | 24.0              |
|    |            | 1       | 49        | 23.77                | 24.5              |
|    |            | 25      | 0         | 22.66                | 23.0              |
|    |            | 25      | 12        | 22.70                | 23.0              |
|    |            | 25      | 25        | 22.66                | 23.0              |
|    |            | 50      | 0         | 22.69                | 23.0              |
|    | 16QAM      | 1       | 0         | 22.63                | 23.5              |
|    |            | 1       | 25        | 22.73                | 23.5              |
|    |            | 1       | 49        | 22.79                | 24.0              |
|    |            | 25      | 0         | 21.68                | 22.0              |
|    |            | 25      | 12        | 21.76                | 22.0              |
|    |            | 25      | 25        | 21.96                | 22.5              |
|    |            | 50      | 0         | 21.77                | 22.0              |
|    | 64QAM      | 1       | 0         | 22.48                | 22.5              |
|    |            | 1       | 25        | 22.45                | 22.5              |
|    |            | 1       | 49        | 22.52                | 23.0              |
|    |            | 25      | 0         | 20.25                | 20.5              |
|    |            | 25      | 12        | 20.18                | 20.5              |
|    |            | 25      | 25        | 20.38                | 21.0              |
|    |            | 50      | 0         | 20.36                | 20.5              |

## LTE Band26

| BW  | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|-----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|     |            |         |           | 26697                | 26865 | 27033 |                   |
|     |            |         |           | 814.7                | 831.5 | 848.3 |                   |
| 1.4 | QPSK       | 1       | 0         | 23.45                | 23.80 | 23.83 | 24.0              |
|     |            | 1       | 3         | 23.48                | 23.82 | 23.55 | 24.0              |
|     |            | 1       | 5         | 23.54                | 23.85 | 23.48 | 24.0              |
|     |            | 3       | 0         | 23.03                | 23.28 | 23.04 | 23.5              |
|     |            | 3       | 1         | 23.09                | 23.20 | 23.05 | 23.5              |
|     |            | 3       | 3         | 23.04                | 23.29 | 23.00 | 23.5              |
|     |            | 6       | 0         | 22.01                | 22.27 | 22.15 | 22.5              |
|     | 16QAM      | 1       | 0         | 22.70                | 23.27 | 22.80 | 23.5              |
|     |            | 1       | 3         | 22.53                | 23.29 | 22.83 | 23.5              |
|     |            | 1       | 5         | 22.68                | 23.33 | 22.86 | 23.5              |
|     |            | 3       | 0         | 22.18                | 22.38 | 21.65 | 22.5              |
|     |            | 3       | 1         | 22.26                | 22.46 | 21.68 | 22.5              |
|     |            | 3       | 3         | 22.23                | 22.41 | 21.82 | 22.5              |
|     |            | 6       | 0         | 21.25                | 21.57 | 21.21 | 22.0              |
|     | 64QAM      | 1       | 0         | 21.69                | 21.52 | 22.05 | 22.5              |
|     |            | 1       | 3         | 21.75                | 21.58 | 22.01 | 22.5              |
|     |            | 1       | 5         | 21.80                | 21.54 | 21.97 | 22.0              |
|     |            | 3       | 0         | 21.20                | 21.13 | 21.61 | 22.0              |
|     |            | 3       | 1         | 21.22                | 21.20 | 21.68 | 22.0              |
|     |            | 3       | 3         | 21.00                | 21.16 | 21.60 | 22.0              |
|     |            | 6       | 0         | 20.23                | 20.31 | 19.94 | 20.5              |

## LTE Band26

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       |                   |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 26705                | 26865 | 27025 | Tune-up Tolerance |
|    |            |         |           | 815.5                | 831.5 | 847.5 |                   |
| 3  | QPSK       | 1       | 0         | 23.47                | 23.87 | 23.54 | 24.0              |
|    |            | 1       | 8         | 23.44                | 23.88 | 23.51 | 24.0              |
|    |            | 1       | 14        | 23.52                | 23.81 | 23.51 | 24.0              |
|    |            | 8       | 0         | 22.00                | 22.24 | 22.06 | 22.5              |
|    |            | 8       | 4         | 22.08                | 22.19 | 22.04 | 22.5              |
|    |            | 8       | 7         | 22.05                | 22.16 | 22.05 | 22.5              |
|    |            | 15      | 0         | 22.04                | 22.19 | 22.13 | 22.5              |
|    | 16QAM      | 1       | 0         | 22.52                | 23.34 | 22.86 | 23.5              |
|    |            | 1       | 8         | 22.61                | 23.32 | 22.87 | 23.5              |
|    |            | 1       | 14        | 22.64                | 23.29 | 22.88 | 23.5              |
|    |            | 8       | 0         | 21.07                | 21.28 | 21.18 | 21.5              |
|    |            | 8       | 4         | 21.15                | 21.40 | 21.22 | 21.5              |
|    |            | 8       | 7         | 21.11                | 21.14 | 21.23 | 21.5              |
|    |            | 15      | 0         | 21.11                | 21.51 | 21.22 | 22.0              |
|    | 64QAM      | 1       | 0         | 22.07                | 21.60 | 22.19 | 22.5              |
|    |            | 1       | 8         | 21.97                | 21.52 | 22.04 | 22.5              |
|    |            | 1       | 14        | 21.98                | 21.42 | 22.07 | 22.5              |
|    |            | 8       | 0         | 20.19                | 20.32 | 20.62 | 21.0              |
|    |            | 8       | 4         | 19.92                | 20.32 | 20.61 | 21.0              |
|    |            | 8       | 7         | 20.24                | 20.67 | 20.14 | 21.0              |
|    |            | 15      | 0         | 20.26                | 20.38 | 20.55 | 21.0              |

## LTE Band26

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       |                   |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 26715                | 26865 | 27015 | Tune-up Tolerance |
|    |            |         |           | 816.5                | 831.5 | 846.5 |                   |
| 5  | QPSK       | 1       | 0         | 23.57                | 23.69 | 23.65 | 24.0              |
|    |            | 1       | 12        | 23.61                | 23.60 | 23.70 | 24.0              |
|    |            | 1       | 24        | 23.61                | 23.50 | 23.69 | 24.0              |
|    |            | 12      | 0         | 22.06                | 22.15 | 22.13 | 22.5              |
|    |            | 12      | 7         | 22.09                | 22.15 | 22.15 | 22.5              |
|    |            | 12      | 13        | 22.02                | 22.07 | 22.00 | 22.5              |
|    |            | 25      | 0         | 21.98                | 22.31 | 22.09 | 22.5              |
|    | 16QAM      | 1       | 0         | 22.07                | 23.36 | 22.88 | 23.5              |
|    |            | 1       | 12        | 21.96                | 23.27 | 22.63 | 23.5              |
|    |            | 1       | 24        | 22.16                | 23.25 | 22.52 | 23.5              |
|    |            | 12      | 0         | 21.02                | 21.45 | 21.11 | 21.5              |
|    |            | 12      | 7         | 21.02                | 21.31 | 21.15 | 21.5              |
|    |            | 12      | 13        | 20.99                | 21.23 | 21.09 | 21.5              |
|    |            | 25      | 0         | 21.24                | 21.02 | 21.09 | 21.5              |
|    | 64QAM      | 1       | 0         | 21.31                | 22.94 | 21.70 | 23.0              |
|    |            | 1       | 12        | 21.39                | 22.86 | 21.71 | 23.0              |
|    |            | 1       | 24        | 21.37                | 22.76 | 21.68 | 23.0              |
|    |            | 12      | 0         | 20.24                | 20.21 | 20.26 | 20.5              |
|    |            | 12      | 7         | 20.24                | 20.31 | 20.55 | 21.0              |
|    |            | 12      | 13        | 20.20                | 20.70 | 20.53 | 21.0              |
|    |            | 25      | 0         | 20.22                | 20.49 | 20.65 | 21.0              |

## LTE Band26

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       |                   |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 26740                | 26865 | 26990 | Tune-up Tolerance |
|    |            |         |           | 819                  | 831.5 | 844   |                   |
| 10 | QPSK       | 1       | 0         | 23.61                | 23.96 | 23.75 | 24.0              |
|    |            | 1       | 25        | 23.65                | 23.89 | 23.60 | 24.0              |
|    |            | 1       | 49        | 23.71                | 23.84 | 23.67 | 24.0              |
|    |            | 25      | 0         | 22.65                | 22.83 | 22.56 | 23.0              |
|    |            | 25      | 12        | 22.54                | 22.60 | 22.50 | 23.0              |
|    |            | 25      | 25        | 22.64                | 22.50 | 22.55 | 23.0              |
|    |            | 50      | 0         | 22.59                | 22.78 | 22.56 | 23.0              |
|    | 16QAM      | 1       | 0         | 23.33                | 23.45 | 22.84 | 23.5              |
|    |            | 1       | 25        | 23.46                | 23.43 | 22.80 | 23.5              |
|    |            | 1       | 49        | 23.53                | 23.22 | 22.87 | 24.0              |
|    |            | 25      | 0         | 21.74                | 21.81 | 21.68 | 22.0              |
|    |            | 25      | 12        | 21.65                | 21.76 | 21.81 | 22.0              |
|    |            | 25      | 25        | 21.75                | 21.72 | 21.86 | 22.0              |
|    |            | 50      | 0         | 21.61                | 21.91 | 21.55 | 22.0              |
|    | 64QAM      | 1       | 0         | 22.10                | 21.37 | 21.95 | 22.5              |
|    |            | 1       | 25        | 22.23                | 21.30 | 21.82 | 22.5              |
|    |            | 1       | 49        | 22.25                | 21.28 | 21.89 | 22.5              |
|    |            | 25      | 0         | 20.58                | 20.92 | 21.05 | 21.5              |
|    |            | 25      | 12        | 20.70                | 20.92 | 20.63 | 21.0              |
|    |            | 25      | 25        | 20.77                | 21.21 | 20.98 | 21.5              |
|    |            | 50      | 0         | 20.72                | 20.79 | 20.67 | 21.0              |

## LTE Band26

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       |                   |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 26765                | 26865 | 26965 | Tune-up Tolerance |
|    |            |         |           | 821.5                | 831.5 | 841.5 |                   |
| 15 | QPSK       | 1       | 0         | 23.65                | 23.84 | 23.51 | 24.0              |
|    |            | 1       | 37        | 23.67                | 23.93 | 23.39 | 24.0              |
|    |            | 1       | 74        | 23.82                | 23.83 | 23.36 | 24.0              |
|    |            | 36      | 0         | 22.53                | 22.89 | 22.77 | 23.0              |
|    |            | 36      | 29        | 22.64                | 22.55 | 22.57 | 23.0              |
|    |            | 36      | 30        | 22.66                | 22.56 | 22.43 | 23.0              |
|    |            | 75      | 0         | 22.64                | 22.64 | 22.57 | 23.0              |
|    | 16QAM      | 1       | 0         | 22.59                | 23.01 | 22.79 | 23.5              |
|    |            | 1       | 37        | 22.53                | 23.14 | 22.68 | 23.5              |
|    |            | 1       | 74        | 22.78                | 23.10 | 22.70 | 23.5              |
|    |            | 36      | 0         | 21.71                | 21.88 | 21.71 | 22.0              |
|    |            | 36      | 29        | 21.80                | 21.80 | 21.58 | 22.0              |
|    |            | 36      | 30        | 21.76                | 21.82 | 21.58 | 22.0              |
|    |            | 75      | 0         | 21.71                | 21.92 | 21.63 | 22.0              |
|    | 64QAM      | 1       | 0         | 22.18                | 21.36 | 22.39 | 22.5              |
|    |            | 1       | 37        | 22.30                | 21.45 | 22.37 | 22.5              |
|    |            | 1       | 74        | 22.51                | 21.46 | 22.41 | 23.0              |
|    |            | 36      | 0         | 20.57                | 21.04 | 20.54 | 21.5              |
|    |            | 36      | 29        | 20.76                | 21.26 | 20.67 | 21.5              |
|    |            | 36      | 30        | 20.78                | 21.20 | 20.66 | 21.5              |
|    |            | 75      | 0         | 20.70                | 20.92 | 21.07 | 21.5              |

## LTE Band28

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       |                   |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 27225                | 27375 | 27645 | Tune-up Tolerance |
|    |            |         |           | 704.5                | 719.5 | 746.5 |                   |
| 3  | QPSK       | 1       | 0         | 23.72                | 23.69 | 23.97 | 24.0              |
|    |            | 1       | 8         | 23.84                | 23.62 | 23.86 | 24.0              |
|    |            | 1       | 14        | 23.84                | 23.62 | 23.93 | 24.0              |
|    |            | 8       | 0         | 22.70                | 22.55 | 22.52 | 23.0              |
|    |            | 8       | 4         | 22.68                | 22.48 | 22.56 | 23.0              |
|    |            | 8       | 7         | 22.89                | 22.49 | 22.65 | 23.0              |
|    |            | 15      | 0         | 22.70                | 22.44 | 22.68 | 23.0              |
|    | 16QAM      | 1       | 0         | 23.74                | 22.92 | 22.38 | 24.0              |
|    |            | 1       | 8         | 23.68                | 22.85 | 22.55 | 24.0              |
|    |            | 1       | 14        | 23.58                | 22.95 | 22.74 | 24.0              |
|    |            | 8       | 0         | 21.95                | 21.58 | 21.72 | 22.0              |
|    |            | 8       | 4         | 21.99                | 21.47 | 21.64 | 22.0              |
|    |            | 8       | 7         | 22.07                | 21.50 | 21.87 | 22.5              |
|    |            | 15      | 0         | 21.92                | 21.56 | 21.74 | 22.0              |
|    | 64QAM      | 1       | 0         | 22.39                | 21.13 | 22.29 | 22.5              |
|    |            | 1       | 8         | 22.35                | 21.11 | 22.30 | 22.5              |
|    |            | 1       | 14        | 22.40                | 21.11 | 22.32 | 22.5              |
|    |            | 8       | 0         | 20.26                | 20.02 | 20.36 | 20.5              |
|    |            | 8       | 4         | 20.34                | 19.96 | 20.12 | 20.5              |
|    |            | 8       | 7         | 20.37                | 19.90 | 20.13 | 20.5              |
|    |            | 15      | 0         | 20.30                | 20.11 | 20.04 | 20.5              |

## LTE Band28

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 27235                | 27385 | 27635 |                   |
|    |            |         |           | 705.5                | 720.5 | 745.5 |                   |
| 5  | QPSK       | 1       | 0         | 23.58                | 23.46 | 23.79 | 24.0              |
|    |            | 1       | 12        | 23.79                | 23.47 | 23.67 | 24.0              |
|    |            | 1       | 24        | 23.74                | 23.54 | 23.69 | 24.0              |
|    |            | 12      | 0         | 22.80                | 22.54 | 22.68 | 23.0              |
|    |            | 12      | 7         | 22.76                | 22.45 | 22.56 | 23.0              |
|    |            | 12      | 13        | 22.88                | 22.61 | 22.66 | 23.0              |
|    |            | 25      | 0         | 22.90                | 22.50 | 22.65 | 23.0              |
|    | 16QAM      | 1       | 0         | 22.42                | 23.14 | 22.85 | 23.5              |
|    |            | 1       | 12        | 22.43                | 23.11 | 22.80 | 23.5              |
|    |            | 1       | 24        | 22.43                | 23.07 | 22.80 | 23.5              |
|    |            | 12      | 0         | 21.82                | 21.58 | 21.49 | 22.0              |
|    |            | 12      | 7         | 21.82                | 21.47 | 21.53 | 22.0              |
|    |            | 12      | 13        | 21.90                | 21.69 | 21.60 | 22.0              |
|    |            | 25      | 0         | 21.88                | 21.38 | 21.68 | 22.0              |
|    | 64QAM      | 1       | 0         | 21.37                | 22.54 | 21.46 | 23.0              |
|    |            | 1       | 12        | 21.38                | 22.57 | 21.51 | 23.0              |
|    |            | 1       | 24        | 21.33                | 22.70 | 21.52 | 23.0              |
|    |            | 12      | 0         | 20.35                | 20.02 | 20.41 | 20.5              |
|    |            | 12      | 7         | 20.52                | 19.89 | 20.39 | 21.0              |
|    |            | 12      | 13        | 20.56                | 20.22 | 20.08 | 21.0              |
|    |            | 25      | 0         | 20.39                | 20.19 | 20.55 | 21.0              |

## LTE Band28

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 27260                | 27410 | 27610 |                   |
|    |            |         |           | 708                  | 723   | 743   |                   |
| 10 | QPSK       | 1       | 0         | 23.74                | 23.60 | 23.69 | 24.0              |
|    |            | 1       | 25        | 23.90                | 23.59 | 23.70 | 24.0              |
|    |            | 1       | 49        | 23.70                | 23.76 | 23.64 | 24.0              |
|    |            | 25      | 0         | 22.83                | 22.55 | 22.61 | 23.0              |
|    |            | 25      | 12        | 22.75                | 22.60 | 22.63 | 23.0              |
|    |            | 25      | 25        | 22.84                | 22.60 | 22.47 | 23.0              |
|    |            | 50      | 0         | 22.82                | 22.47 | 22.69 | 23.0              |
|    | 16QAM      | 1       | 0         | 23.64                | 23.07 | 22.83 | 24.0              |
|    |            | 1       | 25        | 23.82                | 23.23 | 22.75 | 24.0              |
|    |            | 1       | 49        | 23.58                | 23.24 | 22.93 | 24.0              |
|    |            | 25      | 0         | 21.89                | 21.48 | 21.66 | 22.0              |
|    |            | 25      | 12        | 21.83                | 21.77 | 21.69 | 22.0              |
|    |            | 25      | 25        | 21.80                | 22.11 | 21.70 | 22.5              |
|    |            | 50      | 0         | 21.83                | 21.87 | 21.57 | 22.0              |
|    | 64QAM      | 1       | 0         | 22.49                | 21.22 | 22.29 | 22.5              |
|    |            | 1       | 25        | 22.48                | 21.33 | 22.16 | 22.5              |
|    |            | 1       | 49        | 22.29                | 21.66 | 22.43 | 22.5              |
|    |            | 25      | 0         | 20.41                | 20.10 | 20.13 | 20.5              |
|    |            | 25      | 12        | 20.58                | 20.36 | 20.09 | 21.0              |
|    |            | 25      | 25        | 20.15                | 20.60 | 20.40 | 21.0              |
|    |            | 50      | 0         | 20.75                | 20.24 | 20.20 | 21.0              |

## LTE Band28

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 27285                | 27435 | 27585 |                   |
|    |            |         |           | 710.5                | 725.5 | 740.5 |                   |
| 15 | QPSK       | 1       | 0         | 23.76                | 23.51 | 23.62 | 24.0              |
|    |            | 1       | 37        | 23.74                | 23.71 | 23.65 | 24.0              |
|    |            | 1       | 74        | 23.48                | 23.78 | 23.51 | 24.0              |
|    |            | 36      | 0         | 22.91                | 22.47 | 22.67 | 23.0              |
|    |            | 36      | 29        | 22.77                | 22.68 | 22.68 | 23.0              |
|    |            | 36      | 30        | 22.76                | 22.80 | 22.68 | 23.0              |
|    |            | 75      | 0         | 22.83                | 22.54 | 22.69 | 23.0              |
|    | 16QAM      | 1       | 0         | 22.79                | 23.22 | 22.93 | 23.5              |
|    |            | 1       | 37        | 22.81                | 23.35 | 22.91 | 23.5              |
|    |            | 1       | 74        | 22.63                | 23.45 | 22.94 | 23.5              |
|    |            | 36      | 0         | 21.96                | 21.88 | 21.77 | 22.0              |
|    |            | 36      | 29        | 21.73                | 22.09 | 21.68 | 22.5              |
|    |            | 36      | 30        | 21.75                | 22.09 | 21.69 | 22.5              |
|    |            | 75      | 0         | 21.85                | 22.15 | 21.61 | 22.5              |
|    | 64QAM      | 1       | 0         | 22.50                | 21.18 | 22.81 | 23.0              |
|    |            | 1       | 37        | 22.39                | 21.72 | 22.72 | 23.0              |
|    |            | 1       | 74        | 22.14                | 21.37 | 22.75 | 23.0              |
|    |            | 36      | 0         | 20.67                | 20.44 | 20.28 | 21.0              |
|    |            | 36      | 29        | 20.24                | 20.76 | 20.03 | 21.0              |
|    |            | 36      | 30        | 20.25                | 20.67 | 20.16 | 21.0              |
|    |            | 75      | 0         | 20.30                | 20.63 | 20.10 | 21.0              |



## LTE Band28

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       |                   |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 27310                | 27460 | 27560 | Tune-up Tolerance |
|    |            |         |           | 713                  | 728   | 738   |                   |
| 20 | QPSK       | 1       | 0         | 23.63                | 23.48 | 23.67 | 24.0              |
|    |            | 1       | 49        | 23.65                | 23.65 | 23.72 | 24.0              |
|    |            | 1       | 99        | 23.44                | 23.62 | 23.52 | 24.0              |
|    |            | 50      | 0         | 22.84                | 22.33 | 22.57 | 23.0              |
|    |            | 50      | 24        | 22.64                | 22.57 | 22.54 | 23.0              |
|    |            | 50      | 50        | 22.41                | 22.87 | 22.50 | 23.0              |
|    |            | 100     | 0         | 22.65                | 22.69 | 22.57 | 23.0              |
|    | 16QAM      | 1       | 0         | 23.31                | 22.62 | 22.98 | 23.5              |
|    |            | 1       | 49        | 23.29                | 22.74 | 23.32 | 23.5              |
|    |            | 1       | 99        | 23.09                | 22.58 | 23.31 | 23.5              |
|    |            | 50      | 0         | 21.87                | 21.92 | 21.68 | 22.0              |
|    |            | 50      | 24        | 21.76                | 22.06 | 21.69 | 22.5              |
|    |            | 50      | 50        | 21.62                | 21.80 | 21.67 | 22.0              |
|    |            | 100     | 0         | 21.76                | 22.06 | 21.69 | 22.5              |
|    | 64QAM      | 1       | 0         | 22.92                | 21.92 | 22.30 | 23.0              |
|    |            | 1       | 49        | 22.74                | 22.40 | 22.29 | 23.0              |
|    |            | 1       | 99        | 22.77                | 22.13 | 23.08 | 23.5              |
|    |            | 50      | 0         | 20.73                | 20.50 | 20.34 | 21.0              |
|    |            | 50      | 24        | 20.39                | 20.46 | 20.28 | 20.5              |
|    |            | 50      | 50        | 20.10                | 20.32 | 20.19 | 20.5              |
|    |            | 100     | 0         | 20.24                | 20.53 | 20.17 | 21.0              |

## LTE Band38

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |        |                   |
|----|------------|---------|-----------|----------------------|-------|--------|-------------------|
|    |            |         |           | 37775                | 38000 | 38225  | Tune-up Tolerance |
|    |            |         |           | 2572.5               | 2595  | 2617.5 |                   |
| 5  | QPSK       | 1       | 0         | 22.94                | 23.21 | 22.95  | 24.0              |
|    |            | 1       | 12        | 22.95                | 23.03 | 23.02  | 24.5              |
|    |            | 1       | 24        | 23.07                | 23.09 | 23.09  | 24.0              |
|    |            | 12      | 0         | 22.07                | 21.96 | 22.22  | 23.0              |
|    |            | 12      | 7         | 21.99                | 21.92 | 22.13  | 23.0              |
|    |            | 12      | 13        | 21.96                | 21.98 | 22.15  | 23.0              |
|    |            | 25      | 0         | 21.95                | 21.93 | 22.19  | 23.0              |
|    | 16QAM      | 1       | 0         | 22.38                | 21.83 | 22.18  | 23.0              |
|    |            | 1       | 12        | 22.52                | 21.78 | 22.22  | 23.5              |
|    |            | 1       | 24        | 22.17                | 21.84 | 22.33  | 23.5              |
|    |            | 12      | 0         | 20.84                | 21.09 | 21.13  | 22.0              |
|    |            | 12      | 7         | 20.89                | 21.01 | 21.13  | 22.5              |
|    |            | 12      | 13        | 20.89                | 21.00 | 21.29  | 22.0              |
|    |            | 25      | 0         | 21.15                | 21.20 | 21.26  | 22.0              |
|    | 64QAM      | 1       | 0         | 20.48                | 20.53 | 21.23  | 22.0              |
|    |            | 1       | 12        | 20.40                | 20.62 | 21.04  | 22.5              |
|    |            | 1       | 24        | 20.41                | 20.57 | 21.16  | 22.0              |
|    |            | 12      | 0         | 19.62                | 19.49 | 19.48  | 21.0              |
|    |            | 12      | 7         | 19.49                | 19.46 | 19.48  | 21.0              |
|    |            | 12      | 13        | 19.59                | 19.40 | 19.47  | 21.0              |
|    |            | 25      | 0         | 19.67                | 19.42 | 19.79  | 21.5              |

## LTE Band38

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|-------|-------------------|
|    |            |         |           | 37800                | 38000 | 38200 |                   |
|    |            |         |           | 2575                 | 2595  | 2615  |                   |
| 10 | QPSK       | 1       | 0         | 22.88                | 22.73 | 22.90 | 23.0              |
|    |            | 1       | 25        | 22.97                | 22.75 | 22.87 | 23.0              |
|    |            | 1       | 49        | 22.97                | 22.70 | 23.03 | 23.5              |
|    |            | 25      | 0         | 22.00                | 21.94 | 21.98 | 22.0              |
|    |            | 25      | 12        | 22.07                | 21.90 | 21.98 | 22.5              |
|    |            | 25      | 25        | 22.15                | 21.94 | 22.11 | 22.5              |
|    |            | 50      | 0         | 21.71                | 21.73 | 21.77 | 22.0              |
|    | 16QAM      | 1       | 0         | 22.52                | 22.59 | 21.95 | 23.0              |
|    |            | 1       | 25        | 21.79                | 22.50 | 21.96 | 22.5              |
|    |            | 1       | 49        | 21.98                | 22.93 | 22.00 | 23.0              |
|    |            | 25      | 0         | 20.89                | 21.16 | 21.06 | 21.5              |
|    |            | 25      | 12        | 20.99                | 21.14 | 21.21 | 21.5              |
|    |            | 25      | 25        | 21.05                | 21.14 | 21.20 | 21.5              |
|    |            | 50      | 0         | 20.75                | 20.80 | 20.75 | 21.0              |
|    | 64QAM      | 1       | 0         | 21.76                | 20.96 | 20.99 | 22.0              |
|    |            | 1       | 25        | 21.72                | 20.80 | 21.10 | 22.0              |
|    |            | 1       | 49        | 21.92                | 20.83 | 21.54 | 22.0              |
|    |            | 25      | 0         | 19.47                | 19.81 | 19.64 | 20.0              |
|    |            | 25      | 12        | 19.54                | 19.95 | 19.66 | 20.0              |
|    |            | 25      | 25        | 19.59                | 19.86 | 19.77 | 20.0              |
|    |            | 50      | 0         | 19.31                | 19.41 | 19.33 | 19.5              |

## LTE Band38

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |        | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|-------|--------|-------------------|
|    |            |         |           | 37825                | 38000 | 38175  |                   |
|    |            |         |           | 2577.5               | 2595  | 2612.5 |                   |
| 15 | QPSK       | 1       | 0         | 23.07                | 22.66 | 23.10  | 23.5              |
|    |            | 1       | 37        | 23.04                | 22.71 | 23.19  | 23.5              |
|    |            | 1       | 74        | 23.00                | 22.72 | 23.35  | 23.5              |
|    |            | 36      | 0         | 22.11                | 22.05 | 22.05  | 22.5              |
|    |            | 36      | 29        | 22.25                | 21.86 | 21.99  | 22.5              |
|    |            | 36      | 30        | 22.13                | 21.87 | 22.15  | 22.5              |
|    |            | 75      | 0         | 21.81                | 21.65 | 21.68  | 22.0              |
|    | 16QAM      | 1       | 0         | 23.12                | 22.51 | 21.68  | 23.5              |
|    |            | 1       | 37        | 23.03                | 22.58 | 21.62  | 23.5              |
|    |            | 1       | 74        | 22.73                | 22.59 | 21.80  | 23.0              |
|    |            | 36      | 0         | 21.14                | 21.06 | 21.11  | 21.5              |
|    |            | 36      | 29        | 21.13                | 20.99 | 21.09  | 21.5              |
|    |            | 36      | 30        | 21.14                | 21.00 | 21.09  | 21.5              |
|    |            | 75      | 0         | 20.96                | 20.80 | 20.83  | 21.0              |
|    | 64QAM      | 1       | 0         | 21.88                | 20.74 | 21.05  | 22.0              |
|    |            | 1       | 37        | 21.87                | 20.46 | 20.98  | 22.0              |
|    |            | 1       | 74        | 21.81                | 20.91 | 21.16  | 22.0              |
|    |            | 36      | 0         | 19.87                | 19.57 | 19.59  | 20.0              |
|    |            | 36      | 29        | 19.86                | 19.63 | 19.71  | 20.0              |
|    |            | 36      | 30        | 19.87                | 19.54 | 19.78  | 20.0              |
|    |            | 75      | 0         | 19.63                | 19.28 | 19.19  | 20.0              |

## LTE Band38

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |       |       |                      |
|----|------------|---------|-----------|----------------------|-------|-------|----------------------|
|    |            |         |           | 37850                | 38000 | 38150 | Tune-up<br>Tolerance |
|    |            |         |           | 2580                 | 2595  | 2610  |                      |
| 20 | QPSK       | 1       | 0         | 22.78                | 23.35 | 22.76 | 23.5                 |
|    |            | 1       | 49        | 22.83                | 23.16 | 22.79 | 23.5                 |
|    |            | 1       | 99        | 22.89                | 23.14 | 23.00 | 23.5                 |
|    |            | 50      | 0         | 21.98                | 22.02 | 21.99 | 22.5                 |
|    |            | 50      | 24        | 22.04                | 21.99 | 22.13 | 22.5                 |
|    |            | 50      | 50        | 21.96                | 21.93 | 22.16 | 22.5                 |
|    |            | 100     | 0         | 21.65                | 21.57 | 21.81 | 22.0                 |
|    | 16QAM      | 1       | 0         | 22.39                | 21.72 | 22.26 | 22.5                 |
|    |            | 1       | 49        | 22.32                | 21.67 | 22.17 | 22.5                 |
|    |            | 1       | 99        | 22.15                | 21.79 | 22.26 | 22.5                 |
|    |            | 50      | 0         | 21.04                | 21.06 | 21.27 | 21.5                 |
|    |            | 50      | 24        | 21.16                | 20.99 | 21.39 | 21.5                 |
|    |            | 50      | 50        | 20.99                | 21.11 | 21.43 | 21.5                 |
|    |            | 100     | 0         | 20.66                | 20.54 | 20.87 | 21.0                 |
|    | 64QAM      | 1       | 0         | 21.46                | 21.60 | 22.22 | 22.5                 |
|    |            | 1       | 49        | 21.51                | 21.72 | 21.12 | 22.0                 |
|    |            | 1       | 99        | 21.50                | 21.80 | 21.56 | 22.0                 |
|    |            | 50      | 0         | 19.47                | 19.45 | 19.69 | 20.0                 |
|    |            | 50      | 24        | 19.64                | 19.43 | 19.83 | 20.0                 |
|    |            | 50      | 50        | 19.42                | 19.39 | 19.77 | 20.0                 |
|    |            | 100     | 0         | 19.19                | 19.18 | 19.49 | 19.5                 |

## LTE Band66

| BW  | Modulation | RB Size | RB Offset | Conducted power(dBm) |        |        |                      |
|-----|------------|---------|-----------|----------------------|--------|--------|----------------------|
|     |            |         |           | 131979               | 132422 | 132665 | Tune-up<br>Tolerance |
|     |            |         |           | 1710.7               | 1755   | 1779.3 |                      |
| 1.4 | QPSK       | 23.28   | 23.21     | 23.12                | 23.5   | 23.28  | 23.21                |
|     |            | 23.09   | 22.95     | 22.91                | 23.5   | 23.09  | 22.95                |
|     |            | 23.04   | 22.95     | 22.89                | 23.5   | 23.04  | 22.95                |
|     |            | 23.11   | 23.19     | 23.08                | 23.5   | 23.11  | 23.19                |
|     |            | 23.14   | 23.14     | 23.11                | 23.5   | 23.14  | 23.14                |
|     |            | 23.16   | 23.06     | 23.00                | 23.5   | 23.16  | 23.06                |
|     |            | 22.24   | 22.45     | 22.15                | 22.5   | 22.24  | 22.45                |
|     | 16QAM      | 22.35   | 22.64     | 22.26                | 23.0   | 22.35  | 22.64                |
|     |            | 22.34   | 22.68     | 22.20                | 23.0   | 22.34  | 22.68                |
|     |            | 22.27   | 22.63     | 22.29                | 23.0   | 22.27  | 22.63                |
|     |            | 22.43   | 22.09     | 22.47                | 22.5   | 22.43  | 22.09                |
|     |            | 22.44   | 22.04     | 22.41                | 22.5   | 22.44  | 22.04                |
|     |            | 22.45   | 22.11     | 22.50                | 22.5   | 22.45  | 22.11                |
|     |            | 21.52   | 21.15     | 21.28                | 22.0   | 21.52  | 21.15                |
|     | 64QAM      | 21.41   | 21.18     | 21.37                | 21.5   | 21.41  | 21.18                |
|     |            | 21.46   | 21.14     | 21.27                | 21.5   | 21.46  | 21.14                |
|     |            | 21.44   | 21.06     | 21.40                | 21.5   | 21.44  | 21.06                |
|     |            | 21.48   | 21.06     | 21.52                | 22.0   | 21.48  | 21.06                |
|     |            | 21.50   | 21.08     | 21.49                | 21.5   | 21.50  | 21.08                |
|     |            | 21.47   | 21.16     | 21.46                | 21.5   | 21.47  | 21.16                |
|     |            | 19.23   | 19.18     | 18.93                | 19.5   | 19.23  | 19.18                |

## LTE Band66

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |        |        |                      |
|----|------------|---------|-----------|----------------------|--------|--------|----------------------|
|    |            |         |           | 131987               | 132422 | 132657 | Tune-up<br>Tolerance |
|    |            |         |           | 1711.5               | 1755   | 1778.5 |                      |
| 3  | QPSK       | 1       | 0         | 23.44                | 23.06  | 23.04  | 23.5                 |
|    |            | 1       | 8         | 23.33                | 23.00  | 23.10  | 23.5                 |
|    |            | 1       | 14        | 23.50                | 22.99  | 23.25  | 23.5                 |
|    |            | 8       | 0         | 22.08                | 22.03  | 22.07  | 22.5                 |
|    |            | 8       | 4         | 22.12                | 22.02  | 22.02  | 22.5                 |
|    |            | 8       | 7         | 22.39                | 21.96  | 22.10  | 22.5                 |
|    |            | 15      | 0         | 22.19                | 21.97  | 22.14  | 22.5                 |
|    | 16QAM      | 1       | 0         | 22.70                | 22.40  | 22.49  | 23.0                 |
|    |            | 1       | 8         | 22.70                | 22.33  | 22.57  | 23.0                 |
|    |            | 1       | 14        | 22.77                | 22.30  | 22.55  | 23.0                 |
|    |            | 8       | 0         | 21.36                | 21.20  | 21.23  | 21.5                 |
|    |            | 8       | 4         | 21.33                | 21.21  | 21.26  | 21.5                 |
|    |            | 8       | 7         | 21.40                | 21.17  | 21.29  | 21.5                 |
|    |            | 15      | 0         | 21.28                | 21.23  | 21.14  | 21.5                 |
|    | 64QAM      | 1       | 0         | 20.92                | 20.51  | 20.76  | 21.0                 |
|    |            | 1       | 8         | 20.92                | 20.56  | 20.88  | 21.0                 |
|    |            | 1       | 14        | 21.05                | 20.57  | 20.88  | 21.5                 |
|    |            | 8       | 0         | 19.33                | 19.13  | 19.03  | 19.5                 |
|    |            | 8       | 4         | 19.39                | 19.15  | 19.05  | 19.5                 |
|    |            | 8       | 7         | 19.37                | 19.11  | 18.96  | 19.5                 |
|    |            | 15      | 0         | 19.38                | 19.15  | 19.03  | 19.5                 |

## LTE Band66

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |        |        |                      |
|----|------------|---------|-----------|----------------------|--------|--------|----------------------|
|    |            |         |           | 131997               | 132422 | 132647 | Tune-up<br>Tolerance |
|    |            |         |           | 1712.5               | 1755   | 1777.5 |                      |
| 5  | QPSK       | 1       | 0         | 23.24                | 23.18  | 23.07  | 23.5                 |
|    |            | 1       | 12        | 23.27                | 23.21  | 23.11  | 23.5                 |
|    |            | 1       | 24        | 23.26                | 23.12  | 23.09  | 23.5                 |
|    |            | 12      | 0         | 22.26                | 22.07  | 22.03  | 22.5                 |
|    |            | 12      | 7         | 22.26                | 22.02  | 22.11  | 22.5                 |
|    |            | 12      | 13        | 22.18                | 22.04  | 22.12  | 22.5                 |
|    |            | 25      | 0         | 22.28                | 21.98  | 22.11  | 22.5                 |
|    | 16QAM      | 1       | 0         | 22.76                | 22.00  | 22.67  | 23.0                 |
|    |            | 1       | 12        | 22.87                | 21.89  | 22.65  | 23.0                 |
|    |            | 1       | 24        | 22.75                | 22.09  | 22.65  | 23.0                 |
|    |            | 12      | 0         | 21.20                | 21.04  | 21.14  | 21.5                 |
|    |            | 12      | 7         | 21.39                | 21.02  | 21.13  | 21.5                 |
|    |            | 12      | 13        | 21.31                | 21.07  | 21.12  | 21.5                 |
|    |            | 25      | 0         | 21.28                | 21.16  | 21.07  | 21.5                 |
|    | 64QAM      | 1       | 0         | 22.37                | 21.11  | 22.27  | 22.5                 |
|    |            | 1       | 12        | 22.53                | 21.10  | 22.27  | 23.0                 |
|    |            | 1       | 24        | 22.40                | 21.07  | 22.28  | 22.5                 |
|    |            | 12      | 0         | 19.12                | 19.18  | 18.88  | 19.5                 |
|    |            | 12      | 7         | 19.35                | 19.28  | 19.03  | 19.5                 |
|    |            | 12      | 13        | 19.28                | 19.11  | 18.85  | 19.5                 |
|    |            | 25      | 0         | 19.23                | 19.15  | 18.89  | 19.5                 |

## LTE Band66

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |        |        | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|--------|--------|-------------------|
|    |            |         |           | 132022               | 132422 | 132622 |                   |
|    |            |         |           | 1715                 | 1755   | 1775   |                   |
| 10 | QPSK       | 1       | 0         | 23.22                | 23.37  | 23.13  | 23.5              |
|    |            | 1       | 25        | 23.22                | 23.37  | 23.09  | 23.5              |
|    |            | 1       | 49        | 23.34                | 23.29  | 23.06  | 23.5              |
|    |            | 25      | 0         | 22.25                | 22.10  | 22.14  | 22.5              |
|    |            | 25      | 12        | 22.11                | 22.05  | 22.04  | 22.5              |
|    |            | 25      | 25        | 22.24                | 22.04  | 21.99  | 22.5              |
|    |            | 50      | 0         | 22.22                | 21.93  | 22.11  | 22.5              |
|    | 16QAM      | 1       | 0         | 23.19                | 22.08  | 22.50  | 23.5              |
|    |            | 1       | 25        | 23.14                | 22.00  | 22.46  | 23.5              |
|    |            | 1       | 49        | 23.30                | 21.97  | 22.57  | 23.5              |
|    |            | 25      | 0         | 21.42                | 21.17  | 21.27  | 21.5              |
|    |            | 25      | 12        | 21.35                | 21.13  | 21.25  | 21.5              |
|    |            | 25      | 25        | 21.52                | 21.13  | 21.23  | 22.0              |
|    |            | 50      | 0         | 21.31                | 21.22  | 21.21  | 21.5              |
|    | 64QAM      | 1       | 0         | 21.90                | 22.63  | 20.75  | 23.0              |
|    |            | 1       | 25        | 21.95                | 22.49  | 20.87  | 22.5              |
|    |            | 1       | 49        | 21.92                | 22.32  | 20.89  | 22.5              |
|    |            | 25      | 0         | 19.28                | 19.40  | 19.23  | 19.5              |
|    |            | 25      | 12        | 19.48                | 19.39  | 19.24  | 19.5              |
|    |            | 25      | 25        | 19.74                | 19.52  | 19.34  | 20.0              |
|    |            | 50      | 0         | 19.48                | 19.38  | 19.28  | 19.5              |

## LTE Band66

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |        |        | Tune-up Tolerance |
|----|------------|---------|-----------|----------------------|--------|--------|-------------------|
|    |            |         |           | 132047               | 132422 | 132597 |                   |
|    |            |         |           | 1717.5               | 1755   | 1772.5 |                   |
| 15 | QPSK       | 1       | 0         | 23.38                | 23.07  | 23.08  | 23.5              |
|    |            | 1       | 37        | 23.51                | 23.01  | 23.01  | 24.0              |
|    |            | 1       | 74        | 23.45                | 22.97  | 23.05  | 23.5              |
|    |            | 36      | 0         | 22.23                | 21.95  | 22.03  | 22.5              |
|    |            | 36      | 29        | 22.19                | 22.00  | 22.08  | 22.5              |
|    |            | 36      | 30        | 22.19                | 21.98  | 21.99  | 22.5              |
|    |            | 75      | 0         | 22.25                | 22.02  | 21.97  | 22.5              |
|    | 16QAM      | 1       | 0         | 22.63                | 22.50  | 22.70  | 23.0              |
|    |            | 1       | 37        | 22.78                | 22.39  | 22.67  | 23.0              |
|    |            | 1       | 74        | 22.76                | 22.48  | 22.75  | 23.0              |
|    |            | 36      | 0         | 21.41                | 21.16  | 21.27  | 21.5              |
|    |            | 36      | 29        | 21.48                | 21.18  | 21.22  | 21.5              |
|    |            | 36      | 30        | 21.43                | 21.18  | 21.21  | 21.5              |
|    |            | 75      | 0         | 21.47                | 21.22  | 21.20  | 21.5              |
|    | 64QAM      | 1       | 0         | 20.91                | 20.55  | 20.70  | 21.0              |
|    |            | 1       | 37        | 20.94                | 20.57  | 20.77  | 21.0              |
|    |            | 1       | 74        | 20.95                | 20.59  | 20.74  | 21.0              |
|    |            | 36      | 0         | 19.48                | 19.65  | 19.47  | 20.0              |
|    |            | 36      | 29        | 19.65                | 19.36  | 19.28  | 20.0              |
|    |            | 36      | 30        | 19.67                | 19.37  | 19.29  | 20.0              |
|    |            | 75      | 0         | 19.61                | 19.50  | 19.35  | 20.0              |

## LTE Band66

| BW | Modulation | RB Size | RB Offset | Conducted power(dBm) |        |        |                   |
|----|------------|---------|-----------|----------------------|--------|--------|-------------------|
|    |            |         |           | 132072               | 132422 | 132572 | Tune-up Tolerance |
|    |            |         |           | 1720                 | 1755   | 1770   |                   |
| 20 | QPSK       | 1       | 0         | 23.20                | 23.18  | 23.08  | 23.5              |
|    |            | 1       | 49        | 23.27                | 23.22  | 22.99  | 23.5              |
|    |            | 1       | 99        | 23.16                | 23.13  | 23.05  | 23.5              |
|    |            | 50      | 0         | 22.04                | 22.04  | 22.03  | 22.5              |
|    |            | 50      | 24        | 22.20                | 22.06  | 22.00  | 22.5              |
|    |            | 50      | 50        | 22.26                | 22.01  | 21.99  | 22.5              |
|    |            | 100     | 0         | 22.31                | 22.15  | 22.07  | 22.5              |
|    | 16QAM      | 1       | 0         | 22.35                | 22.46  | 22.32  | 22.5              |
|    |            | 1       | 49        | 22.39                | 22.50  | 22.19  | 22.5              |
|    |            | 1       | 99        | 22.40                | 22.58  | 22.31  | 23.0              |
|    |            | 50      | 0         | 21.42                | 21.30  | 21.18  | 21.5              |
|    |            | 50      | 24        | 21.51                | 21.22  | 21.29  | 22.0              |
|    |            | 50      | 50        | 21.48                | 21.14  | 21.27  | 21.5              |
|    |            | 100     | 0         | 21.38                | 21.19  | 21.17  | 21.5              |
|    | 64QAM      | 1       | 0         | 21.31                | 22.11  | 21.61  | 22.5              |
|    |            | 1       | 49        | 21.62                | 22.14  | 21.68  | 22.5              |
|    |            | 1       | 99        | 21.62                | 22.15  | 21.85  | 22.5              |
|    |            | 50      | 0         | 19.52                | 19.93  | 19.63  | 20.0              |
|    |            | 50      | 24        | 19.51                | 19.46  | 19.37  | 20.0              |
|    |            | 50      | 50        | 19.93                | 19.62  | 19.45  | 20.0              |
|    |            | 100     | 0         | 19.70                | 19.76  | 19.52  | 20.0              |

## 6.2.4 Bluetooth

Note: Exclusion method based on EIRP is not applied for the BT, SRTC perform SAR measurement.

### SISO1

#### BT

| Modulation type | Conducted Average Power(dBm) |         |         | Tune-up |
|-----------------|------------------------------|---------|---------|---------|
|                 | 2402MHz                      | 2441MHz | 2480MHz |         |
| GFSK            | 9.07                         | 9.48    | 9.20    | 10.0    |
| $\pi/4$ DQPSK   | 4.59                         | 4.60    | 4.70    | 5.0     |
| 8DPSK           | 3.09                         | 3.14    | 3.30    | 4.0     |

#### BLE

| Modulation type | Conducted Average Power(dBm) |         |         | Tune-up |
|-----------------|------------------------------|---------|---------|---------|
|                 | 2402MHz                      | 2440MHz | 2480MHz |         |
| GFSK (LE 1Mbps) | 7.34                         | 8.32    | 7.71    | 8.5     |
| GFSK (LE 2Mbps) | 5.90                         | 6.94    | 6.15    | 7.0     |
| Coded 125K      | 6.83                         | 7.81    | 7.06    | 8.0     |
| Coded 500K      | 7.49                         | 8.44    | 7.73    | 8.5     |

## 6.2.5 WIFI

Note: Exclusion method based on EIRP is not applied for the WIFI, SRTC perform SAR measurement.

### Unlicensed SISO1

#### WLAN2.4GHz

| Mode         | Freq(MHz) | Average power (dBm) | Tune-up (dBm) |
|--------------|-----------|---------------------|---------------|
| 802.11b      | 2412      | 18.65               | 19.0          |
|              | 2437      | 18.97               | 19.0          |
|              | 2462      | 18.32               | 19.0          |
| 802.11g      | 2412      | 17.61               | 18.0          |
|              | 2437      | 17.86               | 18.0          |
|              | 2462      | 17.46               | 18.0          |
| 802.11n HT20 | 2412      | 16.08               | 17.0          |
|              | 2437      | 16.40               | 17.0          |
|              | 2462      | 15.87               | 17.0          |
| 802.11n HT40 | 2422      | 16.77               | 17.0          |
|              | 2437      | 16.44               | 17.0          |
|              | 2452      | 15.96               | 17.0          |

#### WLAN5GHz UNII-1

| Mode           | Freq(MHz) | Average power (dBm) | Tune-up (dBm) |
|----------------|-----------|---------------------|---------------|
| 802.11a        | 5180      | 16.78               | 17.0          |
|                | 5220      | 16.62               | 17.0          |
|                | 5240      | 16.83               | 17.0          |
| 802.11n HT20   | 5180      | 17.14               | 17.5          |
|                | 5220      | 17.16               | 17.5          |
|                | 5240      | 17.17               | 17.5          |
| 802.11n HT40   | 5190      | 17.02               | 17.5          |
|                | 5230      | 16.82               | 17.5          |
| 802.11ac VHT20 | 5180      | 17.06               | 17.5          |
|                | 5220      | 16.55               | 17.5          |
|                | 5240      | 16.72               | 17.5          |
| 802.11ac VHT40 | 5190      | 16.59               | 17.0          |
|                | 5230      | 16.73               | 17.0          |
| 802.11ac VHT80 | 5210      | 15.84               | 16.0          |



WLAN5GHz UNII-3

| Mode           | Freq(MHz) | Average power (dBm) | Tune-up (dBm) |
|----------------|-----------|---------------------|---------------|
| 802.11a        | 5745      | 18.51               | 19.0          |
|                | 5785      | 18.48               | 19.0          |
|                | 5825      | 18.15               | 19.0          |
| 802.11n HT20   | 5745      | 17.68               | 18.0          |
|                | 5785      | 17.47               | 18.0          |
|                | 5825      | 17.60               | 18.0          |
| 802.11n HT40   | 5755      | 17.63               | 18.0          |
|                | 5795      | 17.47               | 18.0          |
| 802.11ac VHT20 | 5745      | 17.60               | 18.0          |
|                | 5785      | 17.31               | 18.0          |
|                | 5825      | 17.73               | 18.0          |
| 802.11ac VHT40 | 5755      | 17.29               | 18.0          |
|                | 5795      | 17.74               | 18.0          |
| 802.11ac VHT80 | 5775      | 16.11               | 18.0          |

## 7 SAR RESULTS

### 7.1 T-issue and System Check

The manufacturer calibrates the probes annually. Dielectric parameters of the tissue stimulants were measured every day using the dielectric probe kit and the network analyser. For the measurement of the following parameters the SPEAG DAKS-3.5 dielectric parameter probe is used, representing the open-ended coaxial probe measurement procedure. All tests were carried out within 24 hours of measuring the dielectric parameters.

| Freq.(MHz) | Date      | Liquid parameters | Measured | Target | Delta (%) | Tolerance (%) | Verdict |
|------------|-----------|-------------------|----------|--------|-----------|---------------|---------|
| 750        | 2022/7/13 | $\epsilon_r$      | 41.785   | 41.9   | -0.27     | $\pm 10$      | Pass    |
|            |           | $\sigma$ [S/m]    | 0.916    | 0.89   | 2.87      | $\pm 10$      | Pass    |
| 835        | 2022/7/14 | $\epsilon_r$      | 43.188   | 41.5   | 4.07      | $\pm 10$      | Pass    |
|            |           | $\sigma$ [S/m]    | 0.926    | 0.9    | 2.86      | $\pm 10$      | Pass    |
| 1800       | 2022/7/15 | $\epsilon_r$      | 40.692   | 40     | 1.73      | $\pm 10$      | Pass    |
|            |           | $\sigma$ [S/m]    | 1.365    | 1.4    | -2.49     | $\pm 10$      | Pass    |
| 2000       | 2022/7/16 | $\epsilon_r$      | 40.840   | 40     | 2.10      | $\pm 10$      | Pass    |
|            |           | $\sigma$ [S/m]    | 1.394    | 1.4    | -0.43     | $\pm 10$      | Pass    |
| 2450       | 2022/7/17 | $\epsilon_r$      | 37.930   | 39.2   | -3.24     | $\pm 10$      | Pass    |
|            |           | $\sigma$ [S/m]    | 1.866    | 1.8    | 3.65      | $\pm 10$      | Pass    |
| 2600       | 2022/7/18 | $\epsilon_r$      | 37.629   | 39     | -3.52     | $\pm 10$      | Pass    |
|            |           | $\sigma$ [S/m]    | 1.954    | 1.96   | -0.32     | $\pm 10$      | Pass    |
| 5200       | 2022/7/19 | $\epsilon_r$      | 36.107   | 36     | 0.30      | $\pm 5$       | Pass    |
|            |           | $\sigma$ [S/m]    | 4.748    | 4.66   | 1.88      | $\pm 5$       | Pass    |
| 5800       | 2022/7/20 | $\epsilon_r$      | 33.537   | 35.3   | -4.99     | $\pm 5$       | Pass    |
|            |           | $\sigma$ [S/m]    | 5.353    | 5.27   | 1.57      | $\pm 5$       | Pass    |

A system check measurement was made following the determination of the dielectric parameters of the stimulant, using the dipole validation kit. Dipole was placed under the flat section of the twin SAM phantom. The system checking results (dielectric parameters and SAR values) are given in the table below. All tests were carried out within 24 hours of checking system. Plots of the system checking scans are given in Annex A. Tissue Stimulants used in the Measurements. **For the same frequency range, SAR measurement is the same day with system check, and there is no need to manually add test date in ANNEX A.**

| Freq.(MHz) | Date      | SAR measured<br>(normalized to 1W) |       | Target<br>(Ref.<br>Value) | Delta(%) | Tolerance(%) | Verdict |
|------------|-----------|------------------------------------|-------|---------------------------|----------|--------------|---------|
| 750        | 2022/7/13 | 1g                                 | 8.12  | 8.40                      | -3.33    | ±10          | Pass    |
|            |           | 10g                                | 5.60  | 5.70                      | -1.75    | ±10          | Pass    |
| 750        | 2022/7/13 | 1g                                 | 8.68  | 8.40                      | 3.33     | ±10          | Pass    |
|            |           | 10g                                | 5.76  | 5.70                      | 1.05     | ±10          | Pass    |
| 835        | 2022/7/14 | 1g                                 | 9.60  | 9.38                      | 2.35     | ±10          | Pass    |
|            |           | 10g                                | 6.32  | 6.25                      | 1.12     | ±10          | Pass    |
| 835        | 2022/7/14 | 1g                                 | 8.96  | 9.38                      | -4.48    | ±10          | Pass    |
|            |           | 10g                                | 6.20  | 6.25                      | -0.80    | ±10          | Pass    |
| 1800       | 2022/7/15 | 1g                                 | 40.24 | 38.90                     | 3.44     | ±10          | Pass    |
|            |           | 10g                                | 19.68 | 20.30                     | -3.05    | ±10          | Pass    |
| 1800       | 2022/7/15 | 1g                                 | 39.76 | 38.90                     | 2.21     | ±10          | Pass    |
|            |           | 10g                                | 20.96 | 20.30                     | 3.25     | ±10          | Pass    |
| 2000       | 2022/7/16 | 1g                                 | 41.60 | 41.00                     | 1.46     | ±10          | Pass    |
|            |           | 10g                                | 20.76 | 20.50                     | 1.27     | ±10          | Pass    |
| 2000       | 2022/7/16 | 1g                                 | 40.48 | 41.00                     | -1.27    | ±10          | Pass    |
|            |           | 10g                                | 19.56 | 20.50                     | -4.59    | ±10          | Pass    |
| 2450       | 2022/7/17 | 1g                                 | 50.60 | 53.00                     | -4.53    | ±10          | Pass    |
|            |           | 10g                                | 24.72 | 24.50                     | 0.90     | ±10          | Pass    |
| 2450       | 2022/7/17 | 1g                                 | 55.16 | 53.00                     | 4.08     | ±10          | Pass    |
|            |           | 10g                                | 25.20 | 24.50                     | 2.86     | ±10          | Pass    |
| 2600       | 2022/7/18 | 1g                                 | 54.16 | 56.50                     | -4.14    | ±10          | Pass    |
|            |           | 10g                                | 25.32 | 25.40                     | -0.31    | ±10          | Pass    |
| 2600       | 2022/7/18 | 1g                                 | 53.76 | 56.50                     | -4.85    | ±10          | Pass    |
|            |           | 10g                                | 25.68 | 25.40                     | 1.10     | ±10          | Pass    |
| 5200       | 2022/7/19 | 1g                                 | 77.00 | 75.90                     | 1.45     | ±10          | Pass    |
|            |           | 10g                                | 22.00 | 21.40                     | 2.80     | ±10          | Pass    |
| 5800       | 2022/7/20 | 1g                                 | 80.00 | 78.50                     | 1.91     | ±10          | Pass    |
|            |           | 10g                                | 21.00 | 21.90                     | -4.11    | ±10          | Pass    |

## 7.2 SAR Test result

In order to determine the largest value of the peak spatial-average SAR of a handset, all device positions, configurations, and operational modes should be tested for each frequency band according to Steps 1 to 3 below.

Step 1: The tests should be performed at the channel that is closest to the centre of the transmit frequency band.

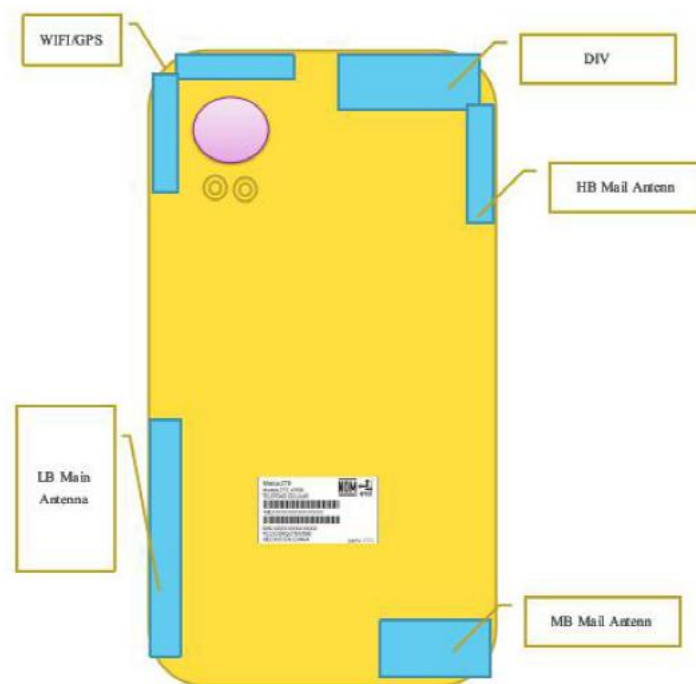
- a) All device positions (cheek and tilt, for both left and right sides of the SAM phantom),
- b) All configurations for each device position in a), e.g., antenna extended and retracted, and
- c) All operational modes for each device position in item a) and configuration in item b) in each frequency band, e.g., analog and digital, If more than three frequencies need to be tested (i.e.,  $N_c > 3$ ), then all frequencies, configurations and modes shall be tested for all of the above test conditions.

Step 2: For the condition providing the highest peak spatial-average SAR determined in Step 1 for each frequency, perform all tests at all other test frequency channels, e.g., lowest and highest frequencies. In addition, for all other conditions (device position, configuration, and operational mode) where the peak spatial-average SAR value determined in Step 1 is within 3 dB of the applicable SAR limit, it is recommended that all other test frequencies should be tested as well.

Step 3: Examine all data to determine the largest value of the peak.

### Test and antenna position describe as follow:

Note: SRTC defined these positions (Back, Front, left, right, Top, Bottom) when facing the DUT screen.



| License antenna | Position | Distances to edge (mm) | Test or not | Note            |
|-----------------|----------|------------------------|-------------|-----------------|
| LBMain          | Back     | 0                      | YES         | ANT for 2/3/4 L |
|                 | Front    | 0                      | YES         |                 |
|                 | Top      | 125                    | NO          |                 |
|                 | Bottom   | 2                      | YES         |                 |
|                 | Left     | 65                     | NO          |                 |
|                 | Right    | 0                      | YES         |                 |

| License antenna | Position | Distances to edge (mm) | Test or not | Note            |
|-----------------|----------|------------------------|-------------|-----------------|
| MBMian          | Back     | 0                      | YES         | ANT for 2/3/4 M |
|                 | Front    | 0                      | YES         |                 |
|                 | Top      | 160                    | NO          |                 |
|                 | Bottom   | 1.0                    | YES         |                 |
|                 | Left     | 1.5                    | YES         |                 |
|                 | Right    | 55                     | NO          |                 |

| License antenna | Position | Distances to edge (mm) | Test or not | Note            |
|-----------------|----------|------------------------|-------------|-----------------|
| HBMain          | Back     | 0                      | YES         | ANT for 2/3/4 H |
|                 | Front    | 0                      | YES         |                 |
|                 | Top      | 15                     | YES         |                 |
|                 | Bottom   | 130                    | NO          |                 |
|                 | Left     | 5                      | YES         |                 |
|                 | Right    | 60                     | NO          |                 |

| Unlicense antenna | Position | Distances to edge (mm) | Test or not | Note                   |
|-------------------|----------|------------------------|-------------|------------------------|
| WIFI/GPS          | Back     | 0                      | YES         | BT/WIFI2.4GHz/WIFI5GHz |
|                   | Front    | 0                      | YES         |                        |
|                   | Top      | 5                      | YES         |                        |
|                   | Bottom   | 135                    | NO          |                        |
|                   | Left     | 70                     | NO          |                        |
|                   | Right    | 5                      | YES         |                        |

**Note: LBMain (GSM850/WCDMA B5/LTE B5 LTE B13/LTE B26/LTE B28),MBMain (GSM1900/WCDMA B2/B4/LTE B2/B4/B66),HBMain (LTE B7/B38)**

**The measured and reported SAR values are tabulated below:**

Non-signaling mode duty cycle could be the most conservative condition which with 100% duty cycle. So duty factor=1/ duty cycle shall be taken into consideration for SAR measurement with Non-signaling mode.

**7.2.1 Licensed SISO1**

| Test case      |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|----------------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| GSM850         | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| GPRS/EDGE GMSK | Head               | Left Cheek  | L       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Left Cheek  | M       | 28.54           | 29.00        | 1.11           | 0.126          | ---    | 0.140            | ---    |
|                |                    | Left Cheek  | H       | 28.51           | 29.00        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Left tilt   | L       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Left tilt   | M       | 28.54           | 29.00        | 1.11           | 0.043          | ---    | 0.048            | ---    |
|                |                    | Left tilt   | H       | 28.51           | 29.00        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Right Cheek | L       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Right Cheek | M       | 28.54           | 29.00        | 1.11           | 0.090          | ---    | 0.100            | ---    |
|                |                    | Right Cheek | H       | 28.51           | 29.00        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Right tilt  | L       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Right tilt  | M       | 28.54           | 29.00        | 1.11           | 0.046          | ---    | 0.051            | ---    |
|                |                    | Right tilt  | H       | 28.51           | 29.00        | 1.12           | ---            | ---    | ---              | ---    |
|                | Body-worn          | Back        | L       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Back        | M       | 28.54           | 29.00        | 1.11           | 0.251          | ---    | 0.279            | ---    |
|                |                    | Back        | H       | 28.51           | 29.00        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Front       | L       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Front       | M       | 28.54           | 29.00        | 1.11           | 0.147          | ---    | 0.163            | ---    |
|                |                    | Front       | H       | 28.51           | 29.00        | 1.12           | ---            | ---    | ---              | ---    |
|                | Hotspot            | Back        | L       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Back        | M       | 28.54           | 29.00        | 1.11           | 0.251          | ---    | 0.279            | ---    |
|                |                    | Back        | H       | 28.51           | 29.00        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Front       | L       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Front       | M       | 28.54           | 29.00        | 1.11           | 0.147          | ---    | 0.163            | ---    |
|                |                    | Front       | H       | 28.51           | 29.00        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Top         | L       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Top         | M       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Top         | H       | 28.51           | 29.00        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Bottom      | L       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Bottom      | M       | 28.54           | 29.00        | 1.11           | 0.066          | ---    | 0.073            | ---    |
|                |                    | Bottom      | H       | 28.51           | 29.00        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Left        | L       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Left        | M       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Left        | H       | 28.51           | 29.00        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Right       | L       | 28.54           | 29.00        | 1.11           | ---            | ---    | ---              | ---    |
|                |                    | Right       | M       | 28.54           | 29.00        | 1.11           | 0.119          | ---    | 0.132            | ---    |
|                |                    | Right       | H       | 28.51           | 29.00        | 1.12           | ---            | ---    | ---              | ---    |

| Test case      |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|----------------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| GSM1900        | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| GPRS/EDGE GMSK | Head               | Left Cheek  | L       | 25.43           | 26.50        | 1.28           | ---            | ---    | ---              | ---    |
|                |                    | Left Cheek  | M       | 25.74           | 26.50        | 1.19           | 0.055          | ---    | 0.065            | ---    |
|                |                    | Left Cheek  | H       | 26.01           | 26.50        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Left tilt   | L       | 25.43           | 26.50        | 1.28           | ---            | ---    | ---              | ---    |
|                |                    | Left tilt   | M       | 25.74           | 26.50        | 1.19           | 0.047          | ---    | 0.056            | ---    |
|                |                    | Left tilt   | H       | 26.01           | 26.50        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Right Cheek | L       | 25.43           | 26.50        | 1.28           | ---            | ---    | ---              | ---    |
|                |                    | Right Cheek | M       | 25.74           | 26.50        | 1.19           | 0.080          | ---    | 0.095            | ---    |
|                |                    | Right Cheek | H       | 26.01           | 26.50        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Right tilt  | L       | 25.43           | 26.50        | 1.28           | ---            | ---    | ---              | ---    |
|                |                    | Right tilt  | M       | 25.74           | 26.50        | 1.19           | 0.048          | ---    | 0.057            | ---    |
|                |                    | Right tilt  | H       | 26.01           | 26.50        | 1.12           | ---            | ---    | ---              | ---    |
|                | Body-worn          | Back        | L       | 25.43           | 26.50        | 1.28           | ---            | ---    | ---              | ---    |
|                |                    | Back        | M       | 25.74           | 26.50        | 1.19           | 0.518          | ---    | 0.616            | ---    |
|                |                    | Back        | H       | 26.01           | 26.50        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Front       | L       | 25.43           | 26.50        | 1.28           | ---            | ---    | ---              | ---    |
|                |                    | Front       | M       | 25.74           | 26.50        | 1.19           | 0.253          | ---    | 0.301            | ---    |
|                |                    | Front       | H       | 26.01           | 26.50        | 1.12           | ---            | ---    | ---              | ---    |
|                | Hotspot            | Back        | L       | 25.43           | 26.50        | 1.28           | ---            | ---    | ---              | ---    |
|                |                    | Back        | M       | 25.74           | 26.50        | 1.19           | 0.518          | ---    | 0.616            | ---    |
|                |                    | Back        | H       | 26.01           | 26.50        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Front       | L       | 25.43           | 26.50        | 1.28           | ---            | ---    | ---              | ---    |
|                |                    | Front       | M       | 25.74           | 26.50        | 1.19           | 0.253          | ---    | 0.301            | ---    |
|                |                    | Front       | H       | 26.01           | 26.50        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Top         | L       | 25.43           | 26.50        | 1.28           | ---            | ---    | ---              | ---    |
|                |                    | Top         | M       | 25.74           | 26.50        | 1.19           | ---            | ---    | ---              | ---    |
|                |                    | Top         | H       | 26.01           | 26.50        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Bottom      | L       | 25.43           | 26.50        | 1.28           | ---            | ---    | ---              | ---    |
|                |                    | Bottom      | M       | 25.74           | 26.50        | 1.19           | 0.375          | ---    | 0.446            | ---    |
|                |                    | Bottom      | H       | 26.01           | 26.50        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Left        | L       | 25.43           | 26.50        | 1.28           | ---            | ---    | ---              | ---    |
|                |                    | Left        | M       | 25.74           | 26.50        | 1.19           | 0.147          | ---    | 0.175            | ---    |
|                |                    | Left        | H       | 26.01           | 26.50        | 1.12           | ---            | ---    | ---              | ---    |
|                |                    | Right       | L       | 25.43           | 26.50        | 1.28           | ---            | ---    | ---              | ---    |
|                |                    | Right       | M       | 25.74           | 26.50        | 1.19           | ---            | ---    | ---              | ---    |
|                |                    | Right       | H       | 26.01           | 26.50        | 1.12           | ---            | ---    | ---              | ---    |

| Test case |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|-----------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| WCDMA II  | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| RMC       | Head               | Left Cheek  | L       | 22.77           | 23.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Left Cheek  | M       | 21.78           | 23.00        | 1.32           | 0.095          | ---    | 0.125            | ---    |
|           |                    | Left Cheek  | H       | 21.88           | 23.00        | 1.29           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | L       | 22.77           | 23.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | M       | 21.78           | 23.00        | 1.32           | 0.078          | ---    | 0.103            | ---    |
|           |                    | Left tilt   | H       | 21.88           | 23.00        | 1.29           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | L       | 22.77           | 23.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | M       | 21.78           | 23.00        | 1.32           | 0.096          | ---    | 0.127            | ---    |
|           |                    | Right Cheek | H       | 21.88           | 23.00        | 1.29           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | L       | 22.77           | 23.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | M       | 21.78           | 23.00        | 1.32           | 0.060          | ---    | 0.079            | ---    |
|           |                    | Right tilt  | H       | 21.88           | 23.00        | 1.29           | ---            | ---    | ---              | ---    |
|           | Body-worn          | Back        | L       | 22.77           | 23.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 21.78           | 23.00        | 1.32           | 0.635          | ---    | 0.838            | ---    |
|           |                    | Back        | H       | 21.88           | 23.00        | 1.29           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 22.77           | 23.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 21.78           | 23.00        | 1.32           | 0.307          | ---    | 0.405            | ---    |
|           |                    | Front       | H       | 21.88           | 23.00        | 1.29           | ---            | ---    | ---              | ---    |
|           | Hotspot            | Back        | L       | 22.77           | 23.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 21.78           | 23.00        | 1.32           | 0.635          | ---    | 0.838            | ---    |
|           |                    | Back        | H       | 21.88           | 23.00        | 1.29           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 22.77           | 23.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 21.78           | 23.00        | 1.32           | 0.307          | ---    | 0.405            | ---    |
|           |                    | Front       | H       | 21.88           | 23.00        | 1.29           | ---            | ---    | ---              | ---    |
|           |                    | Top         | L       | 22.77           | 23.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Top         | M       | 21.78           | 23.00        | 1.32           | ---            | ---    | ---              | ---    |
|           |                    | Top         | H       | 21.88           | 23.00        | 1.29           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | L       | 22.77           | 23.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | M       | 21.78           | 23.00        | 1.32           | 0.455          | ---    | 0.601            | ---    |
|           |                    | Bottom      | H       | 21.88           | 23.00        | 1.29           | ---            | ---    | ---              | ---    |
|           |                    | Left        | L       | 22.77           | 23.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Left        | M       | 21.78           | 23.00        | 1.32           | 0.172          | ---    | 0.227            | ---    |
|           |                    | Left        | H       | 21.88           | 23.00        | 1.29           | ---            | ---    | ---              | ---    |
|           |                    | Right       | L       | 22.77           | 23.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Right       | M       | 21.78           | 23.00        | 1.32           | ---            | ---    | ---              | ---    |
|           |                    | Right       | H       | 21.88           | 23.00        | 1.29           | ---            | ---    | ---              | ---    |



| Test case |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|-----------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| WCDMA IV  | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| RMC       | Head               | Left Cheek  | L       | 22.70           | 23.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Left Cheek  | M       | 22.49           | 23.00        | 1.12           | 0.102          | ---    | 0.114            | ---    |
|           |                    | Left Cheek  | H       | 22.48           | 23.00        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | L       | 22.70           | 23.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | M       | 22.49           | 23.00        | 1.12           | 0.070          | ---    | 0.078            | ---    |
|           |                    | Left tilt   | H       | 22.48           | 23.00        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | L       | 22.70           | 23.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | M       | 22.49           | 23.00        | 1.12           | 0.116          | ---    | 0.130            | ---    |
|           |                    | Right Cheek | H       | 22.48           | 23.00        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | L       | 22.70           | 23.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | M       | 22.49           | 23.00        | 1.12           | 0.058          | ---    | 0.065            | ---    |
|           |                    | Right tilt  | H       | 22.48           | 23.00        | 1.13           | ---            | ---    | ---              | ---    |
|           | Body-worn          | Back        | L       | 22.70           | 23.00        | 1.07           | 0.903          | 0.893  | 0.966            | 0.956  |
|           |                    | Back        | M       | 22.49           | 23.00        | 1.12           | 0.918          | 0.915  | 1.028            | 1.025  |
|           |                    | Back        | H       | 22.48           | 23.00        | 1.13           | 0.911          | 0.909  | 1.029            | 1.027  |
|           |                    | Front       | L       | 22.70           | 23.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 22.49           | 23.00        | 1.12           | 0.412          | ---    | 0.461            | ---    |
|           |                    | Front       | H       | 22.48           | 23.00        | 1.13           | ---            | ---    | ---              | ---    |
|           | Hotspot            | Back        | L       | 22.70           | 23.00        | 1.07           | 0.903          | 0.893  | 0.966            | 0.956  |
|           |                    | Back        | M       | 22.49           | 23.00        | 1.12           | 0.918          | 0.915  | 1.028            | 1.025  |
|           |                    | Back        | H       | 22.48           | 23.00        | 1.13           | 0.911          | 0.909  | 1.029            | 1.027  |
|           |                    | Front       | L       | 22.70           | 23.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 22.49           | 23.00        | 1.12           | 0.412          | ---    | 0.461            | ---    |
|           |                    | Front       | H       | 22.48           | 23.00        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Top         | L       | 22.70           | 23.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Top         | M       | 22.49           | 23.00        | 1.12           | ---            | ---    | ---              | ---    |
|           |                    | Top         | H       | 22.48           | 23.00        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | L       | 22.70           | 23.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | M       | 22.49           | 23.00        | 1.12           | 0.717          | ---    | 0.803            | ---    |
|           |                    | Bottom      | H       | 22.48           | 23.00        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Left        | L       | 22.70           | 23.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Left        | M       | 22.49           | 23.00        | 1.12           | 0.225          | ---    | 0.252            | ---    |
|           |                    | Left        | H       | 22.48           | 23.00        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Right       | L       | 22.70           | 23.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Right       | M       | 22.49           | 23.00        | 1.12           | ---            | ---    | ---              | ---    |
|           |                    | Right       | H       | 22.48           | 23.00        | 1.13           | ---            | ---    | ---              | ---    |

| Test case |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|-----------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| WCDMA V   | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| RMC       | Head               | Left Cheek  | L       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Left Cheek  | M       | 21.78           | 22.00        | 1.05           | 0.159          | ---    | 0.167            | ---    |
|           |                    | Left Cheek  | H       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | L       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | M       | 21.78           | 22.00        | 1.05           | 0.047          | ---    | 0.049            | ---    |
|           |                    | Left tilt   | H       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | L       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | M       | 21.78           | 22.00        | 1.05           | 0.087          | ---    | 0.091            | ---    |
|           |                    | Right Cheek | H       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | L       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | M       | 21.78           | 22.00        | 1.05           | 0.058          | ---    | 0.061            | ---    |
|           |                    | Right tilt  | H       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           | Body-worn          | Back        | L       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 21.78           | 22.00        | 1.05           | 0.270          | ---    | 0.284            | ---    |
|           |                    | Back        | H       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 21.78           | 22.00        | 1.05           | 0.167          | ---    | 0.175            | ---    |
|           |                    | Front       | H       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           | Hotspot            | Back        | L       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 21.78           | 22.00        | 1.05           | 0.270          | ---    | 0.284            | ---    |
|           |                    | Back        | H       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 21.78           | 22.00        | 1.05           | 0.167          | ---    | 0.175            | ---    |
|           |                    | Front       | H       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Top         | L       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Top         | M       | 21.78           | 22.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Top         | H       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | L       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | M       | 21.78           | 22.00        | 1.05           | 0.076          | ---    | 0.080            | ---    |
|           |                    | Bottom      | H       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Left        | L       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Left        | M       | 21.78           | 22.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Left        | H       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Right       | L       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |
|           |                    | Right       | M       | 21.78           | 22.00        | 1.05           | 0.127          | ---    | 0.133            | ---    |
|           |                    | Right       | H       | 21.70           | 22.00        | 1.07           | ---            | ---    | ---              | ---    |

| Test case  |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|------------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| LTE2       | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| QPSK 1RB   | Head               | Left Cheek  | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Left Cheek  | M       | 22.96           | 23.00        | 1.01           | 0.099          | ---    | 0.100            | ---    |
|            |                    | Left Cheek  | H       | 22.88           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Left tilt   | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Left tilt   | M       | 22.96           | 23.00        | 1.01           | 0.080          | ---    | 0.081            | ---    |
|            |                    | Left tilt   | H       | 22.88           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Right Cheek | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Right Cheek | M       | 22.96           | 23.00        | 1.01           | 0.079          | ---    | 0.080            | ---    |
|            |                    | Right Cheek | H       | 22.88           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Right tilt  | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Right tilt  | M       | 22.96           | 23.00        | 1.01           | 0.061          | ---    | 0.062            | ---    |
|            |                    | Right tilt  | H       | 22.88           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            | Body-worn          | Back        | L       | 22.86           | 23.00        | 1.03           | 0.831          | 0.829  | 0.856            | 0.854  |
|            |                    | Back        | M       | 22.96           | 23.00        | 1.01           | 0.849          | 0.844  | 0.857            | 0.852  |
|            |                    | Back        | H       | 22.88           | 23.00        | 1.03           | 0.822          | 0.819  | 0.847            | 0.844  |
|            |                    | Front       | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Front       | M       | 22.96           | 23.00        | 1.01           | 0.359          | ---    | 0.363            | ---    |
|            |                    | Front       | H       | 22.88           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            | Hotspot            | Back        | L       | 22.86           | 23.00        | 1.03           | 0.831          | 0.829  | 0.856            | 0.854  |
|            |                    | Back        | M       | 22.96           | 23.00        | 1.01           | 0.849          | 0.844  | 0.857            | 0.852  |
|            |                    | Back        | H       | 22.88           | 23.00        | 1.03           | 0.822          | 0.819  | 0.847            | 0.844  |
|            |                    | Front       | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Front       | M       | 22.96           | 23.00        | 1.01           | 0.359          | ---    | 0.363            | ---    |
|            |                    | Front       | H       | 22.88           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Top         | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Top         | M       | 22.96           | 23.00        | 1.01           | ---            | ---    | ---              | ---    |
|            |                    | Top         | H       | 22.88           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Bottom      | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Bottom      | M       | 22.96           | 23.00        | 1.01           | 0.526          | ---    | 0.531            | ---    |
|            |                    | Bottom      | H       | 22.88           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Left        | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Left        | M       | 22.96           | 23.00        | 1.01           | 0.194          | ---    | 0.196            | ---    |
|            |                    | Left        | H       | 22.88           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Right       | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Right       | M       | 22.96           | 23.00        | 1.01           | ---            | ---    | ---              | ---    |
|            |                    | Right       | H       | 22.88           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
| QPSK 50%RB | Head               | Left Cheek  | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Left Cheek  | M       | 22.96           | 23.00        | 1.01           | 0.089          | ---    | 0.090            | ---    |
|            |                    | Left Cheek  | H       | 22.88           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Left tilt   | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Left tilt   | M       | 22.96           | 23.00        | 1.01           | 0.063          | ---    | 0.064            | ---    |
|            |                    | Left tilt   | H       | 22.88           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Right Cheek | L       | 22.86           | 23.00        | 1.03           | ---            | ---    | ---              | ---    |
|            |                    | Right Cheek | M       | 22.96           | 23.00        | 1.01           | 0.073          | ---    | 0.074            | ---    |

|  |           |             |   |       |       |      |       |     |       |     |
|--|-----------|-------------|---|-------|-------|------|-------|-----|-------|-----|
|  |           | Right Cheek | H | 22.88 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Right tilt  | L | 22.86 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Right tilt  | M | 22.96 | 23.00 | 1.01 | 0.054 | --- | 0.055 | --- |
|  |           | Right tilt  | H | 22.88 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  | Body-worn | Back        | L | 22.86 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Back        | M | 22.96 | 23.00 | 1.01 | 0.784 | --- | 0.792 | --- |
|  |           | Back        | H | 22.88 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Front       | L | 22.86 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Front       | M | 22.96 | 23.00 | 1.01 | 0.315 | --- | 0.318 | --- |
|  |           | Front       | H | 22.88 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  | Hotspot   | Back        | L | 22.86 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Back        | M | 22.96 | 23.00 | 1.01 | 0.784 | --- | 0.792 | --- |
|  |           | Back        | H | 22.88 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Front       | L | 22.86 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Front       | M | 22.96 | 23.00 | 1.01 | 0.315 | --- | 0.318 | --- |
|  |           | Front       | H | 22.88 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Top         | L | 22.86 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Top         | M | 22.96 | 23.00 | 1.01 | ---   | --- | ---   | --- |
|  |           | Top         | H | 22.88 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Bottom      | L | 22.86 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Bottom      | M | 22.96 | 23.00 | 1.01 | 0.483 | --- | 0.488 | --- |
|  |           | Bottom      | H | 22.88 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Left        | L | 22.86 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Left        | M | 22.96 | 23.00 | 1.01 | 0.165 | --- | 0.167 | --- |
|  |           | Left        | H | 22.88 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Right       | L | 22.86 | 23.00 | 1.03 | ---   | --- | ---   | --- |
|  |           | Right       | M | 22.96 | 23.00 | 1.01 | ---   | --- | ---   | --- |
|  |           | Right       | H | 22.88 | 23.00 | 1.03 | ---   | --- | ---   | --- |

| Test case  |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|------------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| LTE4       | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| QPSK 1RB   | Head               | Left Cheek  | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Left Cheek  | M       | 23.31           | 23.50        | 1.04           | 0.103          | ---    | 0.107            | ---    |
|            |                    | Left Cheek  | H       | 23.27           | 23.50        | 1.05           | ---            | ---    | ---              | ---    |
|            |                    | Left tilt   | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Left tilt   | M       | 23.31           | 23.50        | 1.04           | 0.078          | ---    | 0.081            | ---    |
|            |                    | Left tilt   | H       | 23.27           | 23.50        | 1.05           | ---            | ---    | ---              | ---    |
|            |                    | Right Cheek | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Right Cheek | M       | 23.31           | 23.50        | 1.04           | 0.143          | ---    | 0.149            | ---    |
|            |                    | Right Cheek | H       | 23.27           | 23.50        | 1.05           | ---            | ---    | ---              | ---    |
|            |                    | Right tilt  | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Right tilt  | M       | 23.31           | 23.50        | 1.04           | 0.068          | ---    | 0.071            | ---    |
|            |                    | Right tilt  | H       | 23.27           | 23.50        | 1.05           | ---            | ---    | ---              | ---    |
|            | Body-worn          | Back        | L       | 23.32           | 23.50        | 1.04           | 0.962          | 0.965  | 1.000            | 1.004  |
|            |                    | Back        | M       | 23.31           | 23.50        | 1.04           | 0.983          | 0.980  | 1.022            | 1.019  |
|            |                    | Back        | H       | 23.27           | 23.50        | 1.05           | 0.975          | 0.971  | 1.024            | 1.020  |
|            |                    | Front       | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Front       | M       | 23.31           | 23.50        | 1.04           | 0.507          | ---    | 0.527            | ---    |
|            |                    | Front       | H       | 23.27           | 23.50        | 1.05           | ---            | ---    | ---              | ---    |
|            | Hotspot            | Back        | L       | 23.32           | 23.50        | 1.04           | 0.962          | 0.965  | 1.000            | 1.004  |
|            |                    | Back        | M       | 23.31           | 23.50        | 1.04           | 0.983          | 0.980  | 1.022            | 1.019  |
|            |                    | Back        | H       | 23.27           | 23.50        | 1.05           | 0.975          | 0.971  | 1.024            | 1.020  |
|            |                    | Front       | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Front       | M       | 23.31           | 23.50        | 1.04           | 0.507          | ---    | 0.527            | ---    |
|            |                    | Front       | H       | 23.27           | 23.50        | 1.05           | ---            | ---    | ---              | ---    |
|            |                    | Top         | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Top         | M       | 23.31           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Top         | H       | 23.27           | 23.50        | 1.05           | ---            | ---    | ---              | ---    |
|            |                    | Bottom      | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Bottom      | M       | 23.31           | 23.50        | 1.04           | 0.787          | ---    | 0.818            | ---    |
|            |                    | Bottom      | H       | 23.27           | 23.50        | 1.05           | ---            | ---    | ---              | ---    |
|            |                    | Left        | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Left        | M       | 23.31           | 23.50        | 1.04           | 0.229          | ---    | 0.238            | ---    |
|            |                    | Left        | H       | 23.27           | 23.50        | 1.05           | ---            | ---    | ---              | ---    |
|            |                    | Right       | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Right       | M       | 23.31           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Right       | H       | 23.27           | 23.50        | 1.05           | ---            | ---    | ---              | ---    |
| QPSK 50%RB | Head               | Left Cheek  | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Left Cheek  | M       | 23.31           | 23.50        | 1.04           | 0.083          | ---    | 0.086            | ---    |
|            |                    | Left Cheek  | H       | 23.27           | 23.50        | 1.05           | ---            | ---    | ---              | ---    |
|            |                    | Left tilt   | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Left tilt   | M       | 23.31           | 23.50        | 1.04           | 0.051          | ---    | 0.053            | ---    |
|            |                    | Left tilt   | H       | 23.27           | 23.50        | 1.05           | ---            | ---    | ---              | ---    |
|            |                    | Right Cheek | L       | 23.32           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|            |                    | Right Cheek | M       | 23.31           | 23.50        | 1.04           | 0.121          | ---    | 0.126            | ---    |

|             |           |             |   |       |       |      |       |     |       |     |
|-------------|-----------|-------------|---|-------|-------|------|-------|-----|-------|-----|
|             |           | Right Cheek | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             |           | Right tilt  | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Right tilt  | M | 23.31 | 23.50 | 1.04 | 0.533 | --- | 0.554 | --- |
|             |           | Right tilt  | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             | Body-worn | Back        | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Back        | M | 23.31 | 23.50 | 1.04 | 0.798 | --- | 0.830 | --- |
|             |           | Back        | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             |           | Front       | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Front       | M | 23.31 | 23.50 | 1.04 | 0.372 | --- | 0.387 | --- |
|             |           | Front       | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             | Hotspot   | Back        | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Back        | M | 23.31 | 23.50 | 1.04 | 0.798 | --- | 0.830 | --- |
|             |           | Back        | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             |           | Front       | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Front       | M | 23.31 | 23.50 | 1.04 | 0.372 | --- | 0.387 | --- |
|             |           | Front       | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             |           | Top         | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Top         | M | 23.31 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Top         | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             |           | Bottom      | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Bottom      | M | 23.31 | 23.50 | 1.04 | 0.659 | --- | 0.685 | --- |
|             |           | Bottom      | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             |           | Left        | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Left        | M | 23.31 | 23.50 | 1.04 | 0.186 | --- | 0.193 | --- |
|             |           | Left        | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             |           | Right       | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Right       | M | 23.31 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Right       | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
| QPSK 100%RB | Head      | Left Cheek  | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Left Cheek  | M | 23.31 | 23.50 | 1.04 | 0.073 | --- | 0.076 | --- |
|             |           | Left Cheek  | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             |           | Left tilt   | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Left tilt   | M | 23.31 | 23.50 | 1.04 | 0.046 | --- | 0.048 | --- |
|             |           | Left tilt   | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             |           | Right Cheek | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Right Cheek | M | 23.31 | 23.50 | 1.04 | 0.112 | --- | 0.116 | --- |
|             |           | Right Cheek | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             |           | Right tilt  | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Right tilt  | M | 23.31 | 23.50 | 1.04 | 0.048 | --- | 0.050 | --- |
|             |           | Right tilt  | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             | Body-worn | Back        | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Back        | M | 23.31 | 23.50 | 1.04 | 0.774 | --- | 0.805 | --- |
|             |           | Back        | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             |           | Front       | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|             |           | Front       | M | 23.31 | 23.50 | 1.04 | 0.345 | --- | 0.359 | --- |
|             |           | Front       | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|             | Hotspot   | Back        | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |

|  |  |        |   |       |       |      |       |     |       |     |
|--|--|--------|---|-------|-------|------|-------|-----|-------|-----|
|  |  | Back   | M | 23.31 | 23.50 | 1.04 | 0.774 | --- | 0.805 | --- |
|  |  | Back   | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|  |  | Front  | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|  |  | Front  | M | 23.31 | 23.50 | 1.04 | 0.345 | --- | 0.359 | --- |
|  |  | Front  | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|  |  | Top    | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|  |  | Top    | M | 23.31 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|  |  | Top    | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|  |  | Bottom | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|  |  | Bottom | M | 23.31 | 23.50 | 1.04 | 0.619 | --- | 0.644 | --- |
|  |  | Bottom | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|  |  | Left   | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|  |  | Left   | M | 23.31 | 23.50 | 1.04 | 0.101 | --- | 0.105 | --- |
|  |  | Left   | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |
|  |  | Right  | L | 23.32 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|  |  | Right  | M | 23.31 | 23.50 | 1.04 | ---   | --- | ---   | --- |
|  |  | Right  | H | 23.27 | 23.50 | 1.05 | ---   | --- | ---   | --- |

| Test case |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|-----------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| LTE5      | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| QPSK 1RB  | Head               | Left Cheek  | L       | 23.82           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Left Cheek  | M       | 23.95           | 24.00        | 1.01           | 0.156          | ---    | 0.158            | ---    |
|           |                    | Left Cheek  | H       | 23.79           | 24.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | L       | 23.82           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | M       | 23.95           | 24.00        | 1.01           | 0.050          | ---    | 0.051            | ---    |
|           |                    | Left tilt   | H       | 23.79           | 24.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | L       | 23.82           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | M       | 23.95           | 24.00        | 1.01           | 0.089          | ---    | 0.090            | ---    |
|           |                    | Right Cheek | H       | 23.79           | 24.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | L       | 23.82           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | M       | 23.95           | 24.00        | 1.01           | 0.055          | ---    | 0.056            | ---    |
|           |                    | Right tilt  | H       | 23.79           | 24.00        | 1.05           | ---            | ---    | ---              | ---    |
|           | Body-worn          | Back        | L       | 23.82           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 23.95           | 24.00        | 1.01           | 0.451          | ---    | 0.456            | ---    |
|           |                    | Back        | H       | 23.79           | 24.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 23.82           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 23.95           | 24.00        | 1.01           | 0.215          | ---    | 0.217            | ---    |
|           |                    | Front       | H       | 23.79           | 24.00        | 1.05           | ---            | ---    | ---              | ---    |
|           | Hotspot            | Back        | L       | 23.82           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 23.95           | 24.00        | 1.01           | 0.451          | ---    | 0.456            | ---    |
|           |                    | Back        | H       | 23.79           | 24.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 23.82           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 23.95           | 24.00        | 1.01           | 0.215          | ---    | 0.217            | ---    |
|           |                    | Front       | H       | 23.79           | 24.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Top         | L       | 23.82           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Top         | M       | 23.95           | 24.00        | 1.01           | ---            | ---    | ---              | ---    |
|           |                    | Top         | H       | 23.79           | 24.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | L       | 23.82           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | M       | 23.95           | 24.00        | 1.01           | 0.061          | ---    | 0.062            | ---    |
|           |                    | Bottom      | H       | 23.79           | 24.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Left        | L       | 23.82           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Left        | M       | 23.95           | 24.00        | 1.01           | ---            | ---    | ---              | ---    |
|           |                    | Left        | H       | 23.79           | 24.00        | 1.05           | ---            | ---    | ---              | ---    |
|           |                    | Right       | L       | 23.82           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Right       | M       | 23.95           | 24.00        | 1.01           | 0.112          | ---    | 0.113            | ---    |
|           |                    | Right       | H       | 23.79           | 24.00        | 1.05           | ---            | ---    | ---              | ---    |



| Test case |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|-----------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| LTE7      | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| QPSK 1RB  | Head               | Left Cheek  | L       | 23.34           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Left Cheek  | M       | 23.14           | 23.50        | 1.09           | 0.274          | ---    | 0.299            | ---    |
|           |                    | Left Cheek  | H       | 22.96           | 23.50        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | L       | 23.34           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | M       | 23.14           | 23.50        | 1.09           | 0.130          | ---    | 0.142            | ---    |
|           |                    | Left tilt   | H       | 22.96           | 23.50        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | L       | 23.34           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | M       | 23.14           | 23.50        | 1.09           | 0.667          | ---    | 0.727            | ---    |
|           |                    | Right Cheek | H       | 22.96           | 23.50        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | L       | 23.34           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | M       | 23.14           | 23.50        | 1.09           | 0.252          | ---    | 0.275            | ---    |
|           |                    | Right tilt  | H       | 22.96           | 23.50        | 1.13           | ---            | ---    | ---              | ---    |
|           | Body-worn          | Back        | L       | 23.34           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 23.14           | 23.50        | 1.09           | 0.609          | ---    | 0.664            | ---    |
|           |                    | Back        | H       | 22.96           | 23.50        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 23.34           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 23.14           | 23.50        | 1.09           | 0.188          | ---    | 0.205            | ---    |
|           |                    | Front       | H       | 22.96           | 23.50        | 1.13           | ---            | ---    | ---              | ---    |
|           | Hotspot            | Back        | L       | 23.34           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 23.14           | 23.50        | 1.09           | 0.609          | ---    | 0.664            | ---    |
|           |                    | Back        | H       | 22.96           | 23.50        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 23.34           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 23.14           | 23.50        | 1.09           | 0.188          | ---    | 0.205            | ---    |
|           |                    | Front       | H       | 22.96           | 23.50        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Top         | L       | 23.34           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Top         | M       | 23.14           | 23.50        | 1.09           | 0.171          | ---    | 0.186            | ---    |
|           |                    | Top         | H       | 22.96           | 23.50        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | L       | 23.34           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | M       | 23.14           | 23.50        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | H       | 22.96           | 23.50        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Left        | L       | 23.34           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Left        | M       | 23.14           | 23.50        | 1.09           | 0.542          | ---    | 0.591            | ---    |
|           |                    | Left        | H       | 22.96           | 23.50        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Right       | L       | 23.34           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Right       | M       | 23.14           | 23.50        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Right       | H       | 22.96           | 23.50        | 1.13           | ---            | ---    | ---              | ---    |

| Test case |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|-----------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| LTE13     | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| QPSK 1RB  | Head               | Left Cheek  | L       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Left Cheek  | M       | 23.60           | 24.00        | 1.10           | 0.153          | ---    | 0.168            | ---    |
|           |                    | Left Cheek  | H       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | L       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | M       | 23.60           | 24.00        | 1.10           | 0.050          | ---    | 0.055            | ---    |
|           |                    | Left tilt   | H       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | L       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | M       | 23.60           | 24.00        | 1.10           | 0.112          | ---    | 0.123            | ---    |
|           |                    | Right Cheek | H       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | L       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | M       | 23.60           | 24.00        | 1.10           | 0.074          | ---    | 0.081            | ---    |
|           |                    | Right tilt  | H       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           | Body-worn          | Back        | L       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 23.60           | 24.00        | 1.10           | 0.329          | ---    | 0.362            | ---    |
|           |                    | Back        | H       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 23.60           | 24.00        | 1.10           | 0.100          | ---    | 0.110            | ---    |
|           |                    | Front       | H       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           | Hotspot            | Back        | L       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 23.60           | 24.00        | 1.10           | 0.329          | ---    | 0.362            | ---    |
|           |                    | Back        | H       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 23.60           | 24.00        | 1.10           | 0.100          | ---    | 0.110            | ---    |
|           |                    | Front       | H       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Top         | L       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Top         | M       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Top         | H       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | L       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | M       | 23.60           | 24.00        | 1.10           | 0.066          | ---    | 0.073            | ---    |
|           |                    | Bottom      | H       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Left        | L       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Left        | M       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Left        | H       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Right       | L       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |
|           |                    | Right       | M       | 23.60           | 24.00        | 1.10           | 0.190          | ---    | 0.209            | ---    |
|           |                    | Right       | H       | 23.60           | 24.00        | 1.10           | ---            | ---    | ---              | ---    |

| Test case |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|-----------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| LTE26     | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| QPSK 1RB  | Head               | Left Cheek  | L       | 23.65           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Left Cheek  | M       | 23.84           | 24.00        | 1.04           | 0.165          | ---    | 0.172            | ---    |
|           |                    | Left Cheek  | H       | 23.51           | 24.00        | 1.12           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | L       | 23.65           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | M       | 23.84           | 24.00        | 1.04           | 0.048          | ---    | 0.050            | ---    |
|           |                    | Left tilt   | H       | 23.51           | 24.00        | 1.12           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | L       | 23.65           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | M       | 23.84           | 24.00        | 1.04           | 0.092          | ---    | 0.096            | ---    |
|           |                    | Right Cheek | H       | 23.51           | 24.00        | 1.12           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | L       | 23.65           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | M       | 23.84           | 24.00        | 1.04           | 0.049          | ---    | 0.051            | ---    |
|           |                    | Right tilt  | H       | 23.51           | 24.00        | 1.12           | ---            | ---    | ---              | ---    |
|           | Body-worn          | Back        | L       | 23.65           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 23.84           | 24.00        | 1.04           | 0.388          | ---    | 0.404            | ---    |
|           |                    | Back        | H       | 23.51           | 24.00        | 1.12           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 23.65           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 23.84           | 24.00        | 1.04           | 0.173          | ---    | 0.180            | ---    |
|           |                    | Front       | H       | 23.51           | 24.00        | 1.12           | ---            | ---    | ---              | ---    |
|           | Hotspot            | Back        | L       | 23.65           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 23.84           | 24.00        | 1.04           | 0.388          | ---    | 0.404            | ---    |
|           |                    | Back        | H       | 23.51           | 24.00        | 1.12           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 23.65           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 23.84           | 24.00        | 1.04           | 0.173          | ---    | 0.180            | ---    |
|           |                    | Front       | H       | 23.51           | 24.00        | 1.12           | ---            | ---    | ---              | ---    |
|           |                    | Top         | L       | 23.65           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Top         | M       | 23.84           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Top         | H       | 23.51           | 24.00        | 1.12           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | L       | 23.65           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | M       | 23.84           | 24.00        | 1.04           | 0.071          | ---    | 0.074            | ---    |
|           |                    | Bottom      | H       | 23.51           | 24.00        | 1.12           | ---            | ---    | ---              | ---    |
|           |                    | Left        | L       | 23.65           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Left        | M       | 23.84           | 24.00        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Left        | H       | 23.51           | 24.00        | 1.12           | ---            | ---    | ---              | ---    |
|           |                    | Right       | L       | 23.65           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Right       | M       | 23.84           | 24.00        | 1.04           | 0.133          | ---    | 0.138            | ---    |
|           |                    | Right       | H       | 23.51           | 24.00        | 1.12           | ---            | ---    | ---              | ---    |

| Test case |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|-----------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| LTE28     | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| QPSK 1RB  | Head               | Left Cheek  | L       | 23.63           | 24.00        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Left Cheek  | M       | 23.48           | 24.00        | 1.13           | 0.107          | ---    | 0.121            | ---    |
|           |                    | Left Cheek  | H       | 23.67           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | L       | 23.63           | 24.00        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | M       | 23.48           | 24.00        | 1.13           | 0.010          | ---    | 0.011            | ---    |
|           |                    | Left tilt   | H       | 23.67           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | L       | 23.63           | 24.00        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | M       | 23.48           | 24.00        | 1.13           | 0.076          | ---    | 0.086            | ---    |
|           |                    | Right Cheek | H       | 23.67           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | L       | 23.63           | 24.00        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | M       | 23.48           | 24.00        | 1.13           | 0.051          | ---    | 0.058            | ---    |
|           |                    | Right tilt  | H       | 23.67           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           | Body-worn          | Back        | L       | 23.63           | 24.00        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 23.48           | 24.00        | 1.13           | 0.241          | ---    | 0.272            | ---    |
|           |                    | Back        | H       | 23.67           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 23.63           | 24.00        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 23.48           | 24.00        | 1.13           | 0.149          | ---    | 0.168            | ---    |
|           |                    | Front       | H       | 23.67           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           | Hotspot            | Back        | L       | 23.63           | 24.00        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 23.48           | 24.00        | 1.13           | 0.241          | ---    | 0.272            | ---    |
|           |                    | Back        | H       | 23.67           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 23.63           | 24.00        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 23.48           | 24.00        | 1.13           | 0.149          | ---    | 0.168            | ---    |
|           |                    | Front       | H       | 23.67           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Top         | L       | 23.63           | 24.00        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Top         | M       | 23.48           | 24.00        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Top         | H       | 23.67           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | L       | 23.63           | 24.00        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | M       | 23.48           | 24.00        | 1.13           | 0.010          | ---    | 0.011            | ---    |
|           |                    | Bottom      | H       | 23.67           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Left        | L       | 23.63           | 24.00        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Left        | M       | 23.48           | 24.00        | 1.13           | 0.059          | ---    | 0.067            | ---    |
|           |                    | Left        | H       | 23.67           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |
|           |                    | Right       | L       | 23.63           | 24.00        | 1.09           | ---            | ---    | ---              | ---    |
|           |                    | Right       | M       | 23.48           | 24.00        | 1.13           | ---            | ---    | ---              | ---    |
|           |                    | Right       | H       | 23.67           | 24.00        | 1.08           | ---            | ---    | ---              | ---    |

| Test case |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|-----------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| LTE38     | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| QPSK 1RB  | Head               | Left Cheek  | L       | 22.78           | 23.50        | 1.18           | ---            | ---    | ---              | ---    |
|           |                    | Left Cheek  | M       | 23.35           | 23.50        | 1.04           | 0.155          | ---    | 0.161            | ---    |
|           |                    | Left Cheek  | H       | 22.76           | 23.50        | 1.19           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | L       | 22.78           | 23.50        | 1.18           | ---            | ---    | ---              | ---    |
|           |                    | Left tilt   | M       | 23.35           | 23.50        | 1.04           | 0.040          | ---    | 0.042            | ---    |
|           |                    | Left tilt   | H       | 22.76           | 23.50        | 1.19           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | L       | 22.78           | 23.50        | 1.18           | ---            | ---    | ---              | ---    |
|           |                    | Right Cheek | M       | 23.35           | 23.50        | 1.04           | 0.451          | ---    | 0.469            | ---    |
|           |                    | Right Cheek | H       | 22.76           | 23.50        | 1.19           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | L       | 22.78           | 23.50        | 1.18           | ---            | ---    | ---              | ---    |
|           |                    | Right tilt  | M       | 23.35           | 23.50        | 1.04           | 0.118          | ---    | 0.123            | ---    |
|           |                    | Right tilt  | H       | 22.76           | 23.50        | 1.19           | ---            | ---    | ---              | ---    |
|           | Body-worn          | Back        | L       | 22.78           | 23.50        | 1.18           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 23.35           | 23.50        | 1.04           | 0.319          | ---    | 0.332            | ---    |
|           |                    | Back        | H       | 22.76           | 23.50        | 1.19           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 22.78           | 23.50        | 1.18           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 23.35           | 23.50        | 1.04           | 0.100          | ---    | 0.104            | ---    |
|           |                    | Front       | H       | 22.76           | 23.50        | 1.19           | ---            | ---    | ---              | ---    |
|           | Hotspot            | Back        | L       | 22.78           | 23.50        | 1.18           | ---            | ---    | ---              | ---    |
|           |                    | Back        | M       | 23.35           | 23.50        | 1.04           | 0.319          | ---    | 0.332            | ---    |
|           |                    | Back        | H       | 22.76           | 23.50        | 1.19           | ---            | ---    | ---              | ---    |
|           |                    | Front       | L       | 22.78           | 23.50        | 1.18           | ---            | ---    | ---              | ---    |
|           |                    | Front       | M       | 23.35           | 23.50        | 1.04           | 0.100          | ---    | 0.104            | ---    |
|           |                    | Front       | H       | 22.76           | 23.50        | 1.19           | ---            | ---    | ---              | ---    |
|           |                    | Top         | L       | 22.78           | 23.50        | 1.18           | ---            | ---    | ---              | ---    |
|           |                    | Top         | M       | 23.35           | 23.50        | 1.04           | 0.081          | ---    | 0.084            | ---    |
|           |                    | Top         | H       | 22.76           | 23.50        | 1.19           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | L       | 22.78           | 23.50        | 1.18           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | M       | 23.35           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Bottom      | H       | 22.76           | 23.50        | 1.19           | ---            | ---    | ---              | ---    |
|           |                    | Left        | L       | 22.78           | 23.50        | 1.18           | ---            | ---    | ---              | ---    |
|           |                    | Left        | M       | 23.35           | 23.50        | 1.04           | 0.295          | ---    | 0.307            | ---    |
|           |                    | Left        | H       | 22.76           | 23.50        | 1.19           | ---            | ---    | ---              | ---    |
|           |                    | Right       | L       | 22.78           | 23.50        | 1.18           | ---            | ---    | ---              | ---    |
|           |                    | Right       | M       | 23.35           | 23.50        | 1.04           | ---            | ---    | ---              | ---    |
|           |                    | Right       | H       | 22.76           | 23.50        | 1.19           | ---            | ---    | ---              | ---    |

| Test case  |                    |             |         | Meas power(dBm) | Tune-up(dBm) | Scaling factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|------------|--------------------|-------------|---------|-----------------|--------------|----------------|----------------|--------|------------------|--------|
| LTE66      | Exposure condition | Position    | Channel |                 |              |                | First          | Second | First            | Second |
| QPSK 1RB   | Head               | Left Cheek  | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.099          | ---    | 0.107            | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
|            |                    | Left tilt   | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.070          | ---    | 0.076            | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
|            |                    | Right Cheek | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.103          | ---    | 0.111            | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
|            |                    | Right tilt  | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.053          | ---    | 0.057            | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
| QPSK 1RB   | Body-worn          | Back        | L       | 23.20           | 23.50        | 1.07           | 0.911          | 0.908  | 0.975            | 0.972  |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.936          | 0.921  | 1.011            | 0.995  |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | 0.893          | 0.882  | 0.982            | 0.970  |
|            |                    | Front       | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.399          | ---    | 0.431            | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
| QPSK 1RB   | Hotspot            | Back        | L       | 23.20           | 23.50        | 1.07           | 0.911          | 0.908  | 0.975            | 0.972  |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.936          | 0.921  | 1.011            | 0.995  |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | 0.893          | 0.882  | 0.982            | 0.970  |
|            |                    | Front       | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.399          | ---    | 0.431            | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
|            |                    | Top         | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | ---            | ---    | ---              | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
|            |                    | Bottom      | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.671          | ---    | 0.725            | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
|            |                    | Left        | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.216          | ---    | 0.233            | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
|            |                    | Right       | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | ---            | ---    | ---              | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
| QPSK 50%RB | Head               | Left Cheek  | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.079          | ---    | 0.085            | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
|            |                    | Left tilt   | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.063          | ---    | 0.068            | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
|            |                    | Right Cheek | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | 0.084          | ---    | 0.091            | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |
|            |                    | Right tilt  | L       | 23.20           | 23.50        | 1.07           | ---            | ---    | ---              | ---    |
|            |                    |             | M       | 23.18           | 23.50        | 1.08           | ---            | ---    | ---              | ---    |
|            |                    |             | H       | 23.08           | 23.50        | 1.10           | ---            | ---    | ---              | ---    |

|                |           |             |   |       |       |      |       |     |       |     |
|----------------|-----------|-------------|---|-------|-------|------|-------|-----|-------|-----|
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.048 | --- | 0.052 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
| QPSK<br>50%RB  | Body-worn | Back        | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.782 | --- | 0.845 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|                |           | Front       | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.356 | --- | 0.384 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
| QPSK<br>50%RB  | Hotspot   | Back        | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.782 | --- | 0.845 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|                |           | Front       | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.356 | --- | 0.384 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|                |           | Top         | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | ---   | --- | ---   | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|                |           | Bottom      | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.651 | --- | 0.703 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|                |           | Left        | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.182 | --- | 0.197 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|                |           | Right       | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | ---   | --- | ---   | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
| QPSK<br>100%RB | Head      | Left Cheek  | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.068 | --- | 0.073 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|                |           | Left tilt   | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.059 | --- | 0.064 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|                |           | Right Cheek | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.076 | --- | 0.082 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|                |           | Right tilt  | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.031 | --- | 0.033 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
| QPSK<br>100%RB | Body-worn | Back        | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.731 | --- | 0.789 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|                |           | Front       | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.314 | --- | 0.339 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
| QPSK<br>100%RB | Hotspot   | Back        | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|                |           |             | M | 23.18 | 23.50 | 1.08 | 0.731 | --- | 0.789 | --- |
|                |           |             | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |

|  |  |        |   |       |       |      |       |     |       |     |
|--|--|--------|---|-------|-------|------|-------|-----|-------|-----|
|  |  | Front  | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|  |  |        | M | 23.18 | 23.50 | 1.08 | 0.314 | --- | 0.339 | --- |
|  |  |        | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|  |  | Top    | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|  |  |        | M | 23.18 | 23.50 | 1.08 | ---   | --- | ---   | --- |
|  |  |        | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|  |  | Bottom | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|  |  |        | M | 23.18 | 23.50 | 1.08 | 0.601 | --- | 0.649 | --- |
|  |  |        | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|  |  | Left   | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|  |  |        | M | 23.18 | 23.50 | 1.08 | 0.132 | --- | 0.143 | --- |
|  |  |        | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |
|  |  | Right  | L | 23.20 | 23.50 | 1.07 | ---   | --- | ---   | --- |
|  |  |        | M | 23.18 | 23.50 | 1.08 | ---   | --- | ---   | --- |
|  |  |        | H | 23.08 | 23.50 | 1.10 | ---   | --- | ---   | --- |



## 7.2.2 Unlicensed SISO1

| Test case |                                             |             |         | Meas power(dBm) | Tune-up (dBm) | Scaling factor | Duty cycle | Duty factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|-----------|---------------------------------------------|-------------|---------|-----------------|---------------|----------------|------------|-------------|----------------|--------|------------------|--------|
| BT        | Exposure condition                          | Position    | Channel |                 |               |                |            |             | First          | Second | First            | Second |
| BR        | Head                                        | Left Cheek  | L       | 9.07            | 9.50          | 1.10           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Left Cheek  | M       | 9.48            | 9.50          | 1.00           | 76%        | 1.32        | 0.010          | ---    | 0.013            | ---    |
|           |                                             | Left Cheek  | H       | 9.20            | 9.50          | 1.07           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Left tilt   | L       | 9.07            | 9.50          | 1.10           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Left tilt   | M       | 9.48            | 9.50          | 1.00           | 76%        | 1.32        | 0.015          | ---    | 0.020            | ---    |
|           |                                             | Left tilt   | H       | 9.20            | 9.50          | 1.07           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Right Cheek | L       | 9.07            | 9.50          | 1.10           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Right Cheek | M       | 9.48            | 9.50          | 1.00           | 76%        | 1.32        | 0.010          | ---    | 0.013            | ---    |
|           |                                             | Right Cheek | H       | 9.20            | 9.50          | 1.07           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Right tilt  | L       | 9.07            | 9.50          | 1.10           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Right tilt  | M       | 9.48            | 9.50          | 1.00           | 76%        | 1.32        | 0.010          | ---    | 0.013            | ---    |
|           |                                             | Right tilt  | H       | 9.20            | 9.50          | 1.07           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           | Body-worn                                   | Back        | L       | 9.07            | 9.50          | 1.10           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Back        | M       | 9.48            | 9.50          | 1.00           | 76%        | 1.32        | 0.010          | ---    | 0.013            | ---    |
|           |                                             | Back        | H       | 9.20            | 9.50          | 1.07           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Front       | L       | 9.07            | 9.50          | 1.10           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Front       | M       | 9.48            | 9.50          | 1.00           | 76%        | 1.32        | 0.010          | ---    | 0.013            | ---    |
|           |                                             | Front       | H       | 9.20            | 9.50          | 1.07           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           | Hotspot<br>(Support Bluetooth<br>Thetering) | Back        | L       | 9.07            | 9.50          | 1.10           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Back        | M       | 9.48            | 9.50          | 1.00           | 76%        | 1.32        | 0.010          | ---    | 0.013            | ---    |
|           |                                             | Back        | H       | 9.20            | 9.50          | 1.07           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Front       | L       | 9.07            | 9.50          | 1.10           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Front       | M       | 9.48            | 9.50          | 1.00           | 76%        | 1.32        | 0.010          | ---    | 0.013            | ---    |
|           |                                             | Front       | H       | 9.20            | 9.50          | 1.07           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Top         | L       | 9.07            | 9.50          | 1.10           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Top         | M       | 9.48            | 9.50          | 1.00           | 76%        | 1.32        | 0.010          | ---    | 0.013            | ---    |
|           |                                             | Top         | H       | 9.20            | 9.50          | 1.07           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Bottom      | L       | 9.07            | 9.50          | 1.10           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Bottom      | M       | 9.48            | 9.50          | 1.00           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Bottom      | H       | 9.20            | 9.50          | 1.07           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Left        | L       | 9.07            | 9.50          | 1.10           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Left        | M       | 9.48            | 9.50          | 1.00           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Left        | H       | 9.20            | 9.50          | 1.07           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Right       | L       | 9.07            | 9.50          | 1.10           | 76%        | 1.32        | ---            | ---    | ---              | ---    |
|           |                                             | Right       | M       | 9.48            | 9.50          | 1.00           | 76%        | 1.32        | 0.010          | ---    | 0.013            | ---    |
|           |                                             | Right       | H       | 9.20            | 9.50          | 1.07           | 76%        | 1.32        | ---            | ---    | ---              | ---    |

| Test case  |                    |             |         | Meas power(dBm) | Tune-up (dBm) | Scaling factor | Duty cycle | Duty factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|------------|--------------------|-------------|---------|-----------------|---------------|----------------|------------|-------------|----------------|--------|------------------|--------|
| WLAN2.4GHz | Exposure condition | Position    | Channel |                 |               |                |            |             | First          | Second | First            | Second |
| 802.11b    | Head               | Left Cheek  | L       | 18.65           | 19.00         | 1.08           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Left Cheek  | M       | 18.97           | 19.00         | 1.01           | 100%       | 1.00        | 0.432          | ---    | 0.436            | ---    |
|            |                    | Left Cheek  | H       | 18.32           | 19.00         | 1.17           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Left tilt   | L       | 18.65           | 19.00         | 1.08           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Left tilt   | M       | 18.97           | 19.00         | 1.01           | 100%       | 1.00        | 0.540          | ---    | 0.545            | ---    |
|            |                    | Left tilt   | H       | 18.32           | 19.00         | 1.17           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Right Cheek | L       | 18.65           | 19.00         | 1.08           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Right Cheek | M       | 18.97           | 19.00         | 1.01           | 100%       | 1.00        | 0.293          | ---    | 0.296            | ---    |
|            |                    | Right Cheek | H       | 18.32           | 19.00         | 1.17           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Right tilt  | L       | 18.65           | 19.00         | 1.08           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Right tilt  | M       | 18.97           | 19.00         | 1.01           | 100%       | 1.00        | 0.314          | ---    | 0.317            | ---    |
|            |                    | Right tilt  | H       | 18.32           | 19.00         | 1.17           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            | Body-worn          | Back        | L       | 18.65           | 19.00         | 1.08           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Back        | M       | 18.97           | 19.00         | 1.01           | 100%       | 1.00        | 0.253          | ---    | 0.256            | ---    |
|            |                    | Back        | H       | 18.32           | 19.00         | 1.17           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Front       | L       | 18.65           | 19.00         | 1.08           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Front       | M       | 18.97           | 19.00         | 1.01           | 100%       | 1.00        | 0.138          | ---    | 0.139            | ---    |
|            |                    | Front       | H       | 18.32           | 19.00         | 1.17           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            | Hotspot            | Back        | L       | 18.65           | 19.00         | 1.08           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Back        | M       | 18.97           | 19.00         | 1.01           | 100%       | 1.00        | 0.253          | ---    | 0.256            | ---    |
|            |                    | Back        | H       | 18.32           | 19.00         | 1.17           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Front       | L       | 18.65           | 19.00         | 1.08           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Front       | M       | 18.97           | 19.00         | 1.01           | 100%       | 1.00        | 0.138          | ---    | 0.139            | ---    |
|            |                    | Front       | H       | 18.32           | 19.00         | 1.17           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Top         | L       | 18.65           | 19.00         | 1.08           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Top         | M       | 18.97           | 19.00         | 1.01           | 100%       | 1.00        | 0.213          | ---    | 0.215            | ---    |
|            |                    | Top         | H       | 18.32           | 19.00         | 1.17           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Bottom      | L       | 18.65           | 19.00         | 1.08           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Bottom      | M       | 18.97           | 19.00         | 1.01           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Bottom      | H       | 18.32           | 19.00         | 1.17           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Left        | L       | 18.65           | 19.00         | 1.08           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Left        | M       | 18.97           | 19.00         | 1.01           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Left        | H       | 18.32           | 19.00         | 1.17           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Right       | L       | 18.65           | 19.00         | 1.08           | 100%       | 1.00        | ---            | ---    | ---              | ---    |
|            |                    | Right       | M       | 18.97           | 19.00         | 1.01           | 100%       | 1.00        | 0.065          | ---    | 0.066            | ---    |
|            |                    | Right       | H       | 18.32           | 19.00         | 1.17           | 100%       | 1.00        | ---            | ---    | ---              | ---    |

| Test case       |                    |             |         | Meas power(dBm) | Tune-up (dBm) | Scaling factor | Duty cycle | Duty factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|-----------------|--------------------|-------------|---------|-----------------|---------------|----------------|------------|-------------|----------------|--------|------------------|--------|
| WLAN5GHz UNII-1 | Exposure condition | Position    | Channel |                 |               |                |            |             | First          | Second | First            | Second |
| 802.11n20       | Head               | Left Cheek  | L       | 17.14           | 17.50         | 1.09           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Left Cheek  | M       | 17.16           | 17.50         | 1.08           | 98%        | 1.02        | 0.567          | ---    | 0.624            | ---    |
|                 |                    | Left Cheek  | H       | 17.17           | 17.50         | 1.08           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Left tilt   | L       | 17.14           | 17.50         | 1.09           | 98%        | 1.02        | 0.831          | 0.829  | 0.922            | 0.920  |
|                 |                    | Left tilt   | M       | 17.16           | 17.50         | 1.08           | 98%        | 1.02        | 0.854          | 0.850  | 0.939            | 0.935  |
|                 |                    | Left tilt   | H       | 17.17           | 17.50         | 1.08           | 98%        | 1.02        | 0.843          | 0.841  | 0.927            | 0.925  |
|                 |                    | Right Cheek | L       | 17.14           | 17.50         | 1.09           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Right Cheek | M       | 17.16           | 17.50         | 1.08           | 98%        | 1.02        | 0.489          | ---    | 0.538            | ---    |
|                 |                    | Right Cheek | H       | 17.17           | 17.50         | 1.08           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Right tilt  | L       | 17.14           | 17.50         | 1.09           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Right tilt  | M       | 17.16           | 17.50         | 1.08           | 98%        | 1.02        | 0.711          | ---    | 0.782            | ---    |
|                 |                    | Right tilt  | H       | 17.17           | 17.50         | 1.08           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 | Body-worn          | Back        | L       | 17.14           | 17.50         | 1.09           | 98%        | 1.02        | 0.908          | 0.903  | 1.008            | 1.002  |
|                 |                    | Back        | M       | 17.16           | 17.50         | 1.08           | 98%        | 1.02        | 0.928          | 0.925  | 1.021            | 1.017  |
|                 |                    | Back        | H       | 17.17           | 17.50         | 1.08           | 98%        | 1.02        | 0.912          | 0.910  | 1.003            | 1.001  |
|                 |                    | Front       | L       | 17.14           | 17.50         | 1.09           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Front       | M       | 17.16           | 17.50         | 1.08           | 98%        | 1.02        | 0.177          | ---    | 0.195            | ---    |
|                 |                    | Front       | H       | 17.17           | 17.50         | 1.08           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 | Hotspot            | Back        | L       | 17.14           | 17.50         | 1.09           | 98%        | 1.02        | 0.908          | 0.903  | 1.008            | 1.002  |
|                 |                    | Back        | M       | 17.16           | 17.50         | 1.08           | 98%        | 1.02        | 0.928          | 0.925  | 1.021            | 1.017  |
|                 |                    | Back        | H       | 17.17           | 17.50         | 1.08           | 98%        | 1.02        | 0.912          | 0.910  | 1.003            | 1.001  |
|                 |                    | Front       | L       | 17.14           | 17.50         | 1.09           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Front       | M       | 17.16           | 17.50         | 1.08           | 98%        | 1.02        | 0.177          | ---    | 0.195            | ---    |
|                 |                    | Front       | H       | 17.17           | 17.50         | 1.08           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Top         | L       | 17.14           | 17.50         | 1.09           | 98%        | 1.02        | 0.955          | 0.943  | 1.060            | 1.047  |
|                 |                    | Top         | M       | 17.16           | 17.50         | 1.08           | 98%        | 1.02        | 0.981          | 0.976  | 1.079            | 1.073  |
|                 |                    | Top         | H       | 17.17           | 17.50         | 1.08           | 98%        | 1.02        | 0.961          | 0.959  | 1.057            | 1.055  |
|                 |                    | Bottom      | L       | 17.14           | 17.50         | 1.09           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Bottom      | M       | 17.16           | 17.50         | 1.08           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Bottom      | H       | 17.17           | 17.50         | 1.08           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Left        | L       | 17.14           | 17.50         | 1.09           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Left        | M       | 17.16           | 17.50         | 1.08           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Left        | H       | 17.17           | 17.50         | 1.08           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Right       | L       | 17.14           | 17.50         | 1.09           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Right       | M       | 17.16           | 17.50         | 1.08           | 98%        | 1.02        | 0.071          | ---    | 0.078            | ---    |
|                 |                    | Right       | H       | 17.17           | 17.50         | 1.08           | 98%        | 1.02        | ---            | ---    | ---              | ---    |

| Test case       |                    |             |         | Meas power(dBm) | Tune-up (dBm) | Scaling factor | Duty cycle | Duty factor | Meas SAR(w/kg) |        | Report SAR(w/kg) |        |
|-----------------|--------------------|-------------|---------|-----------------|---------------|----------------|------------|-------------|----------------|--------|------------------|--------|
| WLAN5GHz UNII-3 | Exposure condition | Position    | Channel |                 |               |                |            |             | First          | Second | First            | Second |
| 802.11a         | Head               | Left Cheek  | L       | 18.51           | 19.00         | 1.12           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Left Cheek  | M       | 18.48           | 19.00         | 1.13           | 98%        | 1.02        | 0.437          | ---    | 0.503            | ---    |
|                 |                    | Left Cheek  | H       | 18.15           | 19.00         | 1.22           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Left tilt   | L       | 18.51           | 19.00         | 1.12           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Left tilt   | M       | 18.48           | 19.00         | 1.13           | 98%        | 1.02        | 0.570          | ---    | 0.656            | ---    |
|                 |                    | Left tilt   | H       | 18.15           | 19.00         | 1.22           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Right Cheek | L       | 18.51           | 19.00         | 1.12           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Right Cheek | M       | 18.48           | 19.00         | 1.13           | 98%        | 1.02        | 0.432          | ---    | 0.497            | ---    |
|                 |                    | Right Cheek | H       | 18.15           | 19.00         | 1.22           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Right tilt  | L       | 18.51           | 19.00         | 1.12           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Right tilt  | M       | 18.48           | 19.00         | 1.13           | 98%        | 1.02        | 0.499          | ---    | 0.574            | ---    |
|                 |                    | Right tilt  | H       | 18.15           | 19.00         | 1.22           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 | Body-worn          | Back        | L       | 18.51           | 19.00         | 1.12           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Back        | M       | 18.48           | 19.00         | 1.13           | 98%        | 1.02        | 0.511          | ---    | 0.588            | ---    |
|                 |                    | Back        | H       | 18.15           | 19.00         | 1.22           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Front       | L       | 18.51           | 19.00         | 1.12           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Front       | M       | 18.48           | 19.00         | 1.13           | 98%        | 1.02        | 0.184          | ---    | 0.212            | ---    |
|                 |                    | Front       | H       | 18.15           | 19.00         | 1.22           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 | Hotspot            | Back        | L       | 18.51           | 19.00         | 1.12           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Back        | M       | 18.48           | 19.00         | 1.13           | 98%        | 1.02        | 0.511          | ---    | 0.588            | ---    |
|                 |                    | Back        | H       | 18.15           | 19.00         | 1.22           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Front       | L       | 18.51           | 19.00         | 1.12           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Front       | M       | 18.48           | 19.00         | 1.13           | 98%        | 1.02        | 0.184          | ---    | 0.212            | ---    |
|                 |                    | Front       | H       | 18.15           | 19.00         | 1.22           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Top         | L       | 18.51           | 19.00         | 1.12           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Top         | M       | 18.48           | 19.00         | 1.13           | 98%        | 1.02        | 0.586          | ---    | 0.674            | ---    |
|                 |                    | Top         | H       | 18.15           | 19.00         | 1.22           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Bottom      | L       | 18.51           | 19.00         | 1.12           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Bottom      | M       | 18.48           | 19.00         | 1.13           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Bottom      | H       | 18.15           | 19.00         | 1.22           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Left        | L       | 18.51           | 19.00         | 1.12           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Left        | M       | 18.48           | 19.00         | 1.13           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Left        | H       | 18.15           | 19.00         | 1.22           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Right       | L       | 18.51           | 19.00         | 1.12           | 98%        | 1.02        | ---            | ---    | ---              | ---    |
|                 |                    | Right       | M       | 18.48           | 19.00         | 1.13           | 98%        | 1.02        | 0.051          | ---    | 0.059            | ---    |
|                 |                    | Right       | H       | 18.15           | 19.00         | 1.22           | 98%        | 1.02        | ---            | ---    | ---              | ---    |

**Note: The second supply product of this project only changes the size of the shape module, which has been verified. The SAR value of this report is reflected in the words case**

### 7.3 Simultaneous Transmission SAR Analysis

#### 7.3.1 Multi-TX SAR

SRTC use algebraic summation first, if the value exceed limit, then adopt field vector summation as final result as well as satisfy any pair SPLSR for 1g-SAR =  $(SAR1 + SAR2)1.5/R_i \leq 0.04$  (rounded to two decimal digits), SPLSR for 10g-SAR =  $(SAR1 + SAR2)1.5/R \leq 0.10$  (rounded to two decimal digits)

| Exposure condition | Position    | +BT Main | +WLAN2.4G Hz Main | +WLAN5GHz Main | Simultaneous Transmission   |       |
|--------------------|-------------|----------|-------------------|----------------|-----------------------------|-------|
| Head               | Left cheek  | 0.312    | 0.735             | 0.922          | LTE Band7+WLAN5GHz Main     | 0.922 |
|                    | Left tilt   | 0.162    | 0.687             | 1.081          | LTE Band7+WLAN5GHz Main     | 1.081 |
|                    | Right cheek | 0.740    | 1.023             | 1.265          | LTE Band7+WLAN5GHz Main     | 1.265 |
|                    | Right tilt  | 0.288    | 0.592             | 1.057          | LTE Band7+WLAN5GHz Main     | 1.057 |
| Body worn          | Back        | 1.041    | 1.284             | 0.998          | WCDMA Band IV+WLAN5GHz Main | 0.998 |
|                    | Front       | 0.540    | 0.667             | 0.739          | LTE Band4+WLAN5GHz Main     | 0.739 |
| Hotspot            | Back        | 1.041    | 1.284             | 0.998          | WCDMA Band IV+WLAN5GHz Main | 0.998 |
|                    | Front       | 0.540    | 0.667             | 0.739          | LTE Band4+WLAN5GHz Main     | 0.739 |
|                    | Top         | 0.200    | 0.402             | 1.265          | LTE Band7+WLAN5GHz Main     | 1.265 |
|                    | Bottom      | 0.818    | 0.818             | 0.818          | LTE Band4                   | 0.818 |
|                    | Left        | 0.591    | 0.591             | 0.591          | LTE Band7                   | 0.591 |
|                    | Right       | 0.222    | 0.275             | 0.287          | LTE Band13+WLAN2.4GHz Main  | 0.287 |

| SAR value                   |       | Splsr evaluation    |     |              |       |      |      |
|-----------------------------|-------|---------------------|-----|--------------|-------|------|------|
| SAR1(W/kg)<br>WLAN5GHz Main | 1.079 | Distance pair12(mm) | 130 | Splsr pair12 | 0.024 | 0.04 | Pass |
| SAR2(W/kg)<br>WCDMA Band IV | 1.028 | NA                  | NA  | NA           | NA    | NA   | NA   |

## 8 MEASUREMENT UNCERTAINTY

| <b>Uncertainty Budget for System Validation</b><br><b>(Frequency band: 300 MHz–6 GHz range)</b> |                                     |               |             |            |                    |                     |                 |                  |
|-------------------------------------------------------------------------------------------------|-------------------------------------|---------------|-------------|------------|--------------------|---------------------|-----------------|------------------|
| Symbol                                                                                          | Error Description                   | Uncert. value | Prob. Dist. | Div.       | ( $c_1$ )<br>(1 g) | ( $c_2$ )<br>(10 g) | Std. Unc. (1 g) | Std. Unc. (10 g) |
| <b>Measurement System Errors</b>                                                                |                                     |               |             |            |                    |                     |                 |                  |
| CF                                                                                              | Probe Calibration                   | ±13.1%        | N           | 2          | 1                  | 1                   | ±6.55%          | ±6.55%           |
| CF <sub>drift</sub>                                                                             | Probe Calibration Drift             | ±1.7%         | R           | $\sqrt{3}$ | 1                  | 1                   | ±1.0%           | ±1.0%            |
| LIN                                                                                             | Probe Linearity                     | ±4.7%         | R           | $\sqrt{3}$ | 1                  | 1                   | ±2.7%           | ±2.7%            |
| BBS                                                                                             | Broadband Signal                    | ±0%           | R           | $\sqrt{3}$ | 1                  | 1                   | ±0%             | ±0%              |
| ISO                                                                                             | Probe Isotropy (axial)              | ±4.7%         | R           | $\sqrt{3}$ | 1                  | 1                   | ±2.7%           | ±2.7%            |
| DAE                                                                                             | Other Probe+Electronic              | ±1.2%         | N           | 1          | 1                  | 1                   | ±1.2%           | ±1.2%            |
| AMB                                                                                             | RF Ambient                          | ±0.6%         | N           | 1          | 1                  | 1                   | ±0.6%           | ±0.6%            |
| $\Delta_{\text{sys}}$                                                                           | Probe Positioning                   | ±0.5%         | N           | 1          | 0.29               | 0.29                | ±0.1%           | ±0.1%            |
| DAT                                                                                             | Data Processing                     | ±0%           | N           | 1          | 1                  | 1                   | ±0%             | ±0%              |
| <b>Phantom and Device Errors</b>                                                                |                                     |               |             |            |                    |                     |                 |                  |
| LIQ( $\sigma$ )                                                                                 | Conductivity (meas.) <sup>DAK</sup> | ±2.5%         | N           | 1          | 0.78               | 0.71                | ±2.0%           | ±1.8%            |
| LIQ( $T_\sigma$ )                                                                               | Conductivity (temp.) <sup>BB</sup>  | ±3.4%         | R           | $\sqrt{3}$ | 0.78               | 0.71                | ±1.5%           | ±1.4%            |
| EPS                                                                                             | Phantom Permittivity                | ±14.0%        | R           | $\sqrt{3}$ | 0.25               | 0.25                | ±2.0%           | ±2.0%            |
| DIS                                                                                             | Distance DUT – TSL                  | ±1.3%         | N           | 1          | 2                  | 2                   | ±2.6%           | ±2.6%            |
| MOD                                                                                             | DUT Modulation                      | ±0%           | R           | $\sqrt{3}$ | 1                  | 1                   | ±0%             | ±0%              |
| TAS                                                                                             | Time-average SAR                    | ±0%           | R           | $\sqrt{3}$ | 1                  | 1                   | ±0%             | ±0%              |
| VAL                                                                                             | Validation antenna                  | ±3.2%         | N           | 1          | 1                  | 1                   | ±3.2%           | ±3.2%            |
| $P_{in}$                                                                                        | Accepted power                      | ±2.0%         | N           | 1          | 1                  | 1                   | ±2.0%           | ±2.0%            |
| <b>Correction to the SAR results</b>                                                            |                                     |               |             |            |                    |                     |                 |                  |
| $C(\varepsilon, \sigma)$                                                                        | Deviation to Target                 | ±1.9%         | N           | 1          | 1                  | 0.84                | ±1.9%           | ±1.6%            |
| $u(\Delta\text{SAR})$                                                                           | Combined Uncertainty                |               |             |            |                    |                     | ±9.8%           | ±9.7%            |
| U                                                                                               | <b>Expanded Uncertainty</b>         |               |             |            |                    |                     | ±19.6%          | ±19.5%           |

## Uncertainty Budget for System Validation

(Frequency band: 6 GHz–10 GHz range)

| Symbol                               | Error Description                   | Uncert. value | Prob. Dist. | Div.       | ( $c_i$ )<br>(1 g) | ( $c_i$ )<br>(10 g) | Std. Unc. (1 g) | Std. Unc. (10 g) |
|--------------------------------------|-------------------------------------|---------------|-------------|------------|--------------------|---------------------|-----------------|------------------|
| <b>Measurement System Errors</b>     |                                     |               |             |            |                    |                     |                 |                  |
| CF                                   | Probe Calibration                   | ±18.6%        | N           | 2          | 1                  | 1                   | ±9.30%          | ±9.30%           |
| CF <sub>drift</sub>                  | Probe Calibration Drift             | ±1.7%         | R           | $\sqrt{3}$ | 1                  | 1                   | ±1.0%           | ±1.0%            |
| LIN                                  | Probe Linearity                     | ±4.7%         | R           | $\sqrt{3}$ | 1                  | 1                   | ±2.7%           | ±2.7%            |
| BBS                                  | Broadband Signal                    | ±0%           | R           | $\sqrt{3}$ | 1                  | 1                   | ±0%             | ±0%              |
| ISO                                  | Probe Isotropy (axial)              | ±4.7%         | R           | $\sqrt{3}$ | 1                  | 1                   | ±2.7%           | ±2.7%            |
| DAE                                  | Other Probe+Electronic              | ±2.4%         | N           | 1          | 1                  | 1                   | ±2.4%           | ±2.4%            |
| AMB                                  | RF Ambient                          | ±0.6%         | N           | 1          | 1                  | 1                   | ±0.6%           | ±0.6%            |
| $\Delta_{\text{sys}}$                | Probe Positioning                   | ±0.5%         | N           | 1          | 0.50               | 0.50                | ±0.2%           | ±0.2%            |
| DAT                                  | Data Processing                     | ±0%           | N           | 1          | 1                  | 1                   | ±0%             | ±0%              |
| <b>Phantom and Device Errors</b>     |                                     |               |             |            |                    |                     |                 |                  |
| LIQ( $\sigma$ )                      | Conductivity (meas.) <sup>DAK</sup> | ±2.5%         | N           | 1          | 0.78               | 0.71                | ±2.0%           | ±1.8%            |
| LIQ( $T_\sigma$ )                    | Conductivity (temp.) <sup>BB</sup>  | ±3.4%         | R           | $\sqrt{3}$ | 0.78               | 0.71                | ±1.5%           | ±1.4%            |
| EPS                                  | Phantom Permittivity                | ±14.0%        | R           | $\sqrt{3}$ | 0.5                | 0.5                 | ±4.0%           | ±4.0%            |
| DIS                                  | Distance DUT – TSL                  | ±2.6%         | N           | 1          | 2                  | 2                   | ±5.3%           | ±5.3%            |
| MOD                                  | DUT Modulation                      | ±0%           | R           | $\sqrt{3}$ | 1                  | 1                   | ±0%             | ±0%              |
| TAS                                  | Time-average SAR                    | ±0%           | R           | $\sqrt{3}$ | 1                  | 1                   | ±0%             | ±0%              |
| VAL                                  | Validation antenna                  | ±3.2%         | N           | 1          | 1                  | 1                   | ±3.2%           | ±3.2%            |
| $P_{in}$                             | Accepted power                      | ±2.0%         | N           | 1          | 1                  | 1                   | ±2.0%           | ±2.0%            |
| <b>Correction to the SAR results</b> |                                     |               |             |            |                    |                     |                 |                  |
| C( $\epsilon, \sigma$ )              | Deviation to Target                 | ±1.9%         | N           | 1          | 1                  | 0.84                | ±1.9%           | ±1.6%            |
| u( $\Delta$ SAR)                     | Combined Uncertainty                |               |             |            |                    |                     | ±13.3%          | ±13.2%           |
| U                                    | <b>Expanded Uncertainty</b>         |               |             |            |                    |                     | ±26.6%          | ±26.4%           |

## Uncertainty Budget for DUT

(Frequency band: 300 MHz–3 GHz range)

| Symbol                               | Error Description                   | Uncert. value  | Prob. Dist. | Div.       | ( $c_f$ )<br>(1 g) | ( $c_f$ )<br>(10 g) | Std. Unc. (1 g) | Std. Unc. (10 g) |
|--------------------------------------|-------------------------------------|----------------|-------------|------------|--------------------|---------------------|-----------------|------------------|
| <b>Measurement System Errors</b>     |                                     |                |             |            |                    |                     |                 |                  |
| CF                                   | Probe Calibration                   | $\pm 12.0\%$   | N           | 2          | 1                  | 1                   | $\pm 6.0\%$     | $\pm 6.0\%$      |
| $CF_{drift}$                         | Probe Calibration Drift             | $\pm 1.7\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 1.0\%$     | $\pm 1.0\%$      |
| LIN                                  | Probe Linearity                     | $\pm 4.7\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 2.7\%$     | $\pm 2.7\%$      |
| BBS                                  | Broadband Signal                    | $\pm 3.0\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 1.7\%$     | $\pm 1.7\%$      |
| ISO                                  | Probe Isotropy                      | $\pm 7.6\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 4.4\%$     | $\pm 4.4\%$      |
| DAE                                  | Other Probe+Electronic              | $\pm 0.7\%$    | N           | 1          | 1                  | 1                   | $\pm 0.7\%$     | $\pm 0.7\%$      |
| AMB                                  | RF Ambient                          | $\pm 1.8\%$    | N           | 1          | 1                  | 1                   | $\pm 1.8\%$     | $\pm 1.8\%$      |
| $\Delta_{sys}$                       | Probe Positioning                   | $\pm 0.006$ mm | N           | 1          | 0.14               | 0.14                | $\pm 0.10\%$    | $\pm 0.10\%$     |
| DAT                                  | Data Processing                     | $\pm 1.2\%$    | N           | 1          | 1                  | 1                   | $\pm 1.2\%$     | $\pm 1.2\%$      |
| <b>Phantom and Device Errors</b>     |                                     |                |             |            |                    |                     |                 |                  |
| LIQ( $\sigma$ )                      | Conductivity (meas.) <sup>DAK</sup> | $\pm 2.5\%$    | N           | 1          | 0.78               | 0.71                | $\pm 2.0\%$     | $\pm 1.8\%$      |
| LIQ( $T_\sigma$ )                    | Conductivity (temp.) <sup>BB</sup>  | $\pm 3.3\%$    | R           | $\sqrt{3}$ | 0.78               | 0.71                | $\pm 1.5\%$     | $\pm 1.4\%$      |
| EPS                                  | Phantom Permittivity                | $\pm 14.0\%$   | R           | $\sqrt{3}$ | 0                  | 0                   | $\pm 0\%$       | $\pm 0\%$        |
| DIS                                  | Distance DUT – TSL                  | $\pm 2.0\%$    | N           | 1          | 2                  | 2                   | $\pm 4.0\%$     | $\pm 4.0\%$      |
| $D_{xyz}$                            | Device Positioning                  | $\pm 1.0\%$    | N           | 1          | 1                  | 1                   | $\pm 1.0\%$     | $\pm 1.0\%$      |
| H                                    | Device Holder                       | $\pm 3.6\%$    | N           | 1          | 1                  | 1                   | $\pm 3.6\%$     | $\pm 3.6\%$      |
| MOD                                  | DUT Modulation <sup>m</sup>         | $\pm 2.4\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 1.4\%$     | $\pm 1.4\%$      |
| TAS                                  | Time-average SAR                    | $\pm 1.7\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 1.0\%$     | $\pm 1.0\%$      |
| $RF_{drift}$                         | DUT drift                           | $\pm 2.5\%$    | N           | 1          | 1                  | 1                   | $\pm 2.5\%$     | $\pm 2.5\%$      |
| VAL                                  | Val Antenna Unc. <sup>val</sup>     | $\pm 0.0\%$    | N           | 1          | 1                  | 1                   | $\pm 0\%$       | $\pm 0\%$        |
| $RF_{in}$                            | Unc. Input Power <sup>val</sup>     | $\pm 0.0\%$    | N           | 1          | 1                  | 1                   | $\pm 0\%$       | $\pm 0\%$        |
| <b>Correction to the SAR results</b> |                                     |                |             |            |                    |                     |                 |                  |
| $C(\epsilon, \sigma)$                | Deviation to Target                 | $\pm 1.9\%$    | N           | 1          | 1                  | 0.84                | $\pm 1.9\%$     | $\pm 1.6\%$      |
| $C(R)$                               | SAR scaling <sup>p</sup>            | $\pm 0\%$      | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 0\%$       | $\pm 0\%$        |
| $u(\Delta SAR)$                      | Combined Uncertainty                |                |             |            |                    |                     | $\pm 10.9\%$    | $\pm 10.9\%$     |
| U                                    | <b>Expanded Uncertainty</b>         |                |             |            |                    |                     | $\pm 21.9\%$    | $\pm 21.8\%$     |



## Uncertainty Budget for DUT

(Frequency band: 3 GHz–6 GHz range)

| Symbol                               | Error Description                   | Uncert. value  | Prob. Dist. | Div.       | ( $c_i$ )<br>(1 g) | ( $c_i$ )<br>(10 g) | Std. Unc. (1 g) | Std. Unc. (10 g) |
|--------------------------------------|-------------------------------------|----------------|-------------|------------|--------------------|---------------------|-----------------|------------------|
| <b>Measurement System Errors</b>     |                                     |                |             |            |                    |                     |                 |                  |
| CF                                   | Probe Calibration                   | $\pm 13.1\%$   | N           | 2          | 1                  | 1                   | $\pm 6.55\%$    | $\pm 6.55\%$     |
| $CF_{drift}$                         | Probe Calibration Drift             | $\pm 1.7\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 1.0\%$     | $\pm 1.0\%$      |
| LIN                                  | Probe Linearity                     | $\pm 4.7\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 2.7\%$     | $\pm 2.7\%$      |
| BBS                                  | Broadband Signal                    | $\pm 2.6\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 1.5\%$     | $\pm 1.5\%$      |
| ISO                                  | Probe Isotropy                      | $\pm 7.6\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 4.4\%$     | $\pm 4.4\%$      |
| DAE                                  | Other Probe+Electronic              | $\pm 1.2\%$    | N           | 1          | 1                  | 1                   | $\pm 1.2\%$     | $\pm 1.2\%$      |
| AMB                                  | RF Ambient                          | $\pm 1.8\%$    | N           | 1          | 1                  | 1                   | $\pm 1.8\%$     | $\pm 1.8\%$      |
| $\Delta_{sys}$                       | Probe Positioning                   | $\pm 0.005$ mm | N           | 1          | 0.29               | 0.29                | $\pm 0.15\%$    | $\pm 0.15\%$     |
| DAT                                  | Data Processing                     | $\pm 2.3\%$    | N           | 1          | 1                  | 1                   | $\pm 2.3\%$     | $\pm 2.3\%$      |
| <b>Phantom and Device Errors</b>     |                                     |                |             |            |                    |                     |                 |                  |
| LIQ( $\sigma$ )                      | Conductivity (meas.) <sup>DAK</sup> | $\pm 2.5\%$    | N           | 1          | 0.78               | 0.71                | $\pm 2.0\%$     | $\pm 1.8\%$      |
| LIQ( $T_\sigma$ )                    | Conductivity (temp.) <sup>BB</sup>  | $\pm 3.4\%$    | R           | $\sqrt{3}$ | 0.78               | 0.71                | $\pm 1.5\%$     | $\pm 1.4\%$      |
| EPS                                  | Phantom Permittivity                | $\pm 14.0\%$   | R           | $\sqrt{3}$ | 0.25               | 0.25                | $\pm 2.0\%$     | $\pm 2.0\%$      |
| DIS                                  | Distance DUT – TSL                  | $\pm 2.0\%$    | N           | 1          | 2                  | 2                   | $\pm 4.0\%$     | $\pm 4.0\%$      |
| $D_{xyz}$                            | Device Positioning                  | $\pm 1.0\%$    | N           | 1          | 1                  | 1                   | $\pm 1.0\%$     | $\pm 1.0\%$      |
| H                                    | Device Holder                       | $\pm 3.6\%$    | N           | 1          | 1                  | 1                   | $\pm 3.6\%$     | $\pm 3.6\%$      |
| MOD                                  | DUT Modulation <sup>m</sup>         | $\pm 2.4\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 1.4\%$     | $\pm 1.4\%$      |
| TAS                                  | Time-average SAR                    | $\pm 1.7\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 1.0\%$     | $\pm 1.0\%$      |
| $RF_{drift}$                         | DUT drift                           | $\pm 2.5\%$    | N           | 1          | 1                  | 1                   | $\pm 2.5\%$     | $\pm 2.5\%$      |
| VAL                                  | Val Antenna Unc. <sup>val</sup>     | $\pm 0.0\%$    | N           | 1          | 1                  | 1                   | $\pm 0\%$       | $\pm 0\%$        |
| $RF_{in}$                            | Unc. Input Power <sup>val</sup>     | $\pm 0.0\%$    | N           | 1          | 1                  | 1                   | $\pm 0\%$       | $\pm 0\%$        |
| <b>Correction to the SAR results</b> |                                     |                |             |            |                    |                     |                 |                  |
| $C(\varepsilon, \sigma)$             | Deviation to Target                 | $\pm 1.9\%$    | N           | 1          | 1                  | 0.84                | $\pm 1.9\%$     | $\pm 1.6\%$      |
| $C(R)$                               | SAR scaling <sup>p</sup>            | $\pm 0\%$      | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 0\%$       | $\pm 0\%$        |
| $u(\Delta SAR)$                      | Combined Uncertainty                |                |             |            |                    |                     | $\pm 11.6\%$    | $\pm 11.5\%$     |
| U                                    | <b>Expanded Uncertainty</b>         |                |             |            |                    |                     | $\pm 23.3\%$    | $\pm 23.0\%$     |

## Uncertainty Budget for DUT

(Frequency band: 6 GHz–10 GHz range)

| Symbol                               | Error Description                   | Uncert. value  | Prob. Dist. | Div.       | ( $c_f$ )<br>(1 g) | ( $c_f$ )<br>(10 g) | Std. Unc. (1 g) | Std. Unc. (10 g) |
|--------------------------------------|-------------------------------------|----------------|-------------|------------|--------------------|---------------------|-----------------|------------------|
| <b>Measurement System Errors</b>     |                                     |                |             |            |                    |                     |                 |                  |
| CF                                   | Probe Calibration                   | $\pm 18.6\%$   | N           | 2          | 1                  | 1                   | $\pm 9.3\%$     | $\pm 9.3\%$      |
| $CF_{drift}$                         | Probe Calibration Drift             | $\pm 1.7\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 1.0\%$     | $\pm 1.0\%$      |
| LIN                                  | Probe Linearity                     | $\pm 4.7\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 2.7\%$     | $\pm 2.7\%$      |
| BBS                                  | Broadband Signal                    | $\pm 2.8\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 1.6\%$     | $\pm 1.6\%$      |
| ISO                                  | Probe Isotropy                      | $\pm 7.6\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 4.4\%$     | $\pm 4.4\%$      |
| DAE                                  | Other Probe+Electronic              | $\pm 2.4\%$    | N           | 1          | 1                  | 1                   | $\pm 2.4\%$     | $\pm 2.4\%$      |
| AMB                                  | RF Ambient                          | $\pm 1.8\%$    | N           | 1          | 1                  | 1                   | $\pm 1.8\%$     | $\pm 1.8\%$      |
| $\Delta_{sys}$                       | Probe Positioning                   | $\pm 0.005$ mm | N           | 1          | 0.50               | 0.50                | $\pm 0.25\%$    | $\pm 0.25\%$     |
| DAT                                  | Data Processing                     | $\pm 3.5\%$    | N           | 1          | 1                  | 1                   | $\pm 3.5\%$     | $\pm 3.5\%$      |
| <b>Phantom and Device Errors</b>     |                                     |                |             |            |                    |                     |                 |                  |
| LIQ( $\sigma$ )                      | Conductivity (meas.) <sup>DAK</sup> | $\pm 2.5\%$    | N           | 1          | 0.78               | 0.71                | $\pm 2.0\%$     | $\pm 1.8\%$      |
| LIQ( $T_\sigma$ )                    | Conductivity (temp.) <sup>BB</sup>  | $\pm 2.4\%$    | R           | $\sqrt{3}$ | 0.78               | 0.71                | $\pm 1.1\%$     | $\pm 1.0\%$      |
| EPS                                  | Phantom Permittivity                | $\pm 14.0\%$   | R           | $\sqrt{3}$ | 0.5                | 0.5                 | $\pm 4.0\%$     | $\pm 4.0\%$      |
| DIS                                  | Distance DUT – TSL                  | $\pm 2.0\%$    | N           | 1          | 2                  | 2                   | $\pm 4.0\%$     | $\pm 4.0\%$      |
| $D_{xyz}$                            | Device Positioning                  | $\pm 1.0\%$    | N           | 1          | 1                  | 1                   | $\pm 1.0\%$     | $\pm 1.0\%$      |
| H                                    | Device Holder                       | $\pm 3.6\%$    | N           | 1          | 1                  | 1                   | $\pm 3.6\%$     | $\pm 3.6\%$      |
| MOD                                  | DUT Modulation <sup>m</sup>         | $\pm 2.4\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 1.4\%$     | $\pm 1.4\%$      |
| TAS                                  | Time-average SAR                    | $\pm 1.7\%$    | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 1.0\%$     | $\pm 1.0\%$      |
| $RF_{drift}$                         | DUT drift                           | $\pm 2.5\%$    | N           | 1          | 1                  | 1                   | $\pm 2.5\%$     | $\pm 2.5\%$      |
| VAL                                  | Val Antenna Unc. <sup>val</sup>     | $\pm 0.0\%$    | N           | 1          | 1                  | 1                   | $\pm 0\%$       | $\pm 0\%$        |
| $RF_{in}$                            | Unc. Input Power <sup>val</sup>     | $\pm 0.0\%$    | N           | 1          | 1                  | 1                   | $\pm 0\%$       | $\pm 0\%$        |
| <b>Correction to the SAR results</b> |                                     |                |             |            |                    |                     |                 |                  |
| $C(\varepsilon, \sigma)$             | Deviation to Target                 | $\pm 1.9\%$    | N           | 1          | 1                  | 0.84                | $\pm 1.9\%$     | $\pm 1.6\%$      |
| $C(R)$                               | SAR scaling <sup>p</sup>            | $\pm 0\%$      | R           | $\sqrt{3}$ | 1                  | 1                   | $\pm 0\%$       | $\pm 0\%$        |
| $u(\Delta SAR)$                      | Combined Uncertainty                |                |             |            |                    |                     | $\pm 14.2\%$    | $\pm 13.9\%$     |
| U                                    | <b>Expanded Uncertainty</b>         |                |             |            |                    |                     | $\pm 28.4\%$    | $\pm 27.9\%$     |

Note: SRTC evaluate the uncertainty of ambient noise, reflections and device Positioning periodically to make sure there is no influence on SAR result. When the measured value less than the value provided by SPEAG, SRTC adopt the worst value as final result.

## 9 TEST EQUIPMENTS

The measurements were performed using an automated near-field scanning system, DASY, manufactured by Schmid & Partner Engineering AG (SPEAG) in Switzerland, all the components and supplement devices listed below.

| Test Equipment           | Model   | Serial Number | Calibration date | Calibration due data |
|--------------------------|---------|---------------|------------------|----------------------|
| DAE                      | DAE4    | 720           | 2021/10/08       | 2022/10/07           |
| DAE                      | DAE4    | 546           | 2021/08/25       | 2022/08/24           |
| Dosimetric E-field Probe | ES3DV3  | 3127          | 2021/08/27       | 2022/08/26           |
| Dosimetric E-field Probe | EX3DV4  | 3708          | 2021/10/20       | 2022/10/19           |
| Dipole Validation Kit    | D450V2  | 1024          | 2020/10/26       | 2023/10/25           |
| Dipole Validation Kit    | D750V3  | 1101          | 2020/10/16       | 2023/10/15           |
| Dipole Validation Kit    | D835V2  | 4d023         | 2020/10/16       | 2023/10/15           |
| Dipole Validation Kit    | D900V2  | 171           | 2020/09/17       | 2023/09/16           |
| Dipole Validation Kit    | D1450V2 | 1065          | 2020/10/16       | 2023/10/15           |
| Dipole Validation Kit    | D1800V2 | 2d084         | 2020/09/18       | 2023/09/17           |
| Dipole Validation Kit    | D2000V2 | 1009          | 2020/10/14       | 2023/10/13           |
| Dipole Validation Kit    | D2450V2 | 738           | 2020/10/13       | 2023/10/12           |
| Dipole Validation Kit    | D2600V2 | 1166          | 2019/11/08       | 2022/11/07           |
| Dipole Validation Kit    | D3300V2 | 1014          | 2019/11/11       | 2022/11/10           |
| Dipole Validation Kit    | D3500V2 | 1090          | 2019/11/11       | 2022/11/10           |
| Dipole Validation Kit    | D3700V2 | 1058          | 2019/11/11       | 2022/11/10           |
| Dipole Validation Kit    | D3900V2 | 1033          | 2019/11/11       | 2022/11/10           |
| Dipole Validation Kit    | D4200V2 | 1013          | 2019/11/12       | 2022/11/11           |
| Dipole Validation Kit    | D4600V2 | 1033          | 2019/11/12       | 2022/11/11           |
| Dipole Validation Kit    | D4900V2 | 1025          | 2019/11/12       | 2022/11/11           |
| Dipole Validation Kit    | D5GHzV2 | 1079          | 2020/10/10       | 2023/10/09           |
| Dipole Validation Kit    | D6GHzV2 | 1055          | 2021/11/29       | 2024/11/28           |

Note: Longer calibration intervals of up to **3 years is acceptable** when it is demonstrated that the SAR target, impedance and return loss of a dipole have remain stable.

| Test Equipment             | Model    | Serial Number | Calibration within 1year |
|----------------------------|----------|---------------|--------------------------|
| Signal Generator           | E8257dD  | MY46522016    | Comply                   |
| Power meter                | E4417A   | MY45101004    | Comply                   |
| Power Sensor               | E9300B   | MY41496001    | Comply                   |
| Power Sensor               | E9300B   | MY41496003    | Comply                   |
| Vector Network Analyzer    | VNA R140 | 0011213       | Comply                   |
| Dielectric Parameter Probe | DAKS-3.5 | 1042          | Comply                   |
| Communication Tester       | E5515C   | MY48367401    | Comply                   |
| Communication Tester       | CMW500   | 161702        | Comply                   |
| Communication Tester       | MT8820C  | 6201300660    | Comply                   |
| Communication Tester       | SP9500   | 20334         | Comply                   |

| Software | Version      |
|----------|--------------|
| DASY5    | 52.10.4.1527 |
| SEMCAD X | 14.6.14      |
| DAK      | 3.0.4.1      |

**SAR Target:** Refers to system check, measured SAR (1g and 10g) deviates from the Target SAR value of calibration report within 10%.

**Impedance and Return loss measured by Network analyzer:** The most recent measurement of the real or imaginary parts of the impedance deviates within 5  $\Omega$  from the previous measurement. The most recent return-loss result deviates within 20% from the previous measurement. (Target from the last calibration report, Return loss<20db)

| Dipole450 TSL Parameters  |                               |                               |
|---------------------------|-------------------------------|-------------------------------|
| (feed point 450MHz)       |                               |                               |
| Parameters                | Measured data                 | Target (Ref. Value)           |
| Impedance                 | 56.1 $\Omega$ +6.06j $\Omega$ | 55.5 $\Omega$ +6.40j $\Omega$ |
| Return loss               | -21.6 dB                      | -21.9 dB                      |
| Dipole750 TSL Parameters  |                               |                               |
| (feed point 750MHz)       |                               |                               |
| Parameters                | Measured data                 | Target (Ref. Value)           |
| Impedance                 | 53.9 $\Omega$ -2.02j $\Omega$ | 53.7 $\Omega$ -1.63j $\Omega$ |
| Return loss               | -27.5 dB                      | -28.2dB                       |
| Dipole835 TSL Parameters  |                               |                               |
| (feed point 835MHz)       |                               |                               |
| Parameters                | Measured data                 | Target (Ref. Value)           |
| Impedance                 | 53.4 $\Omega$ -3.16j $\Omega$ | 52.6 $\Omega$ -2.37j $\Omega$ |
| Return loss               | -30.1 dB                      | -29.3dB                       |
| Dipole900 TSL Parameters  |                               |                               |
| (feed point 900MHz)       |                               |                               |
| Parameters                | Measured data                 | Target (Ref. Value)           |
| Impedance                 | 50.6 $\Omega$ -5.24j $\Omega$ | 49.1 $\Omega$ -6.69j $\Omega$ |
| Return loss               | -23.8 dB                      | -23.4dB                       |
| Dipole1450 TSL Parameters |                               |                               |
| (feed point 1450MHz)      |                               |                               |
| Parameters                | Measured data                 | Target (Ref. Value)           |
| Impedance                 | 53.7 $\Omega$ -2.95j $\Omega$ | 52.4 $\Omega$ -1.35j $\Omega$ |
| Return loss               | -32.1 dB                      | -31.5dB                       |
| Dipole1800 TSL Parameters |                               |                               |
| (feed point 1800MHz)      |                               |                               |
| Parameters                | Measured data                 | Target (Ref. Value)           |
| Impedance                 | 47.8 $\Omega$ -3.06j $\Omega$ | 48.9 $\Omega$ -2.71j $\Omega$ |
| Return loss               | -31.3 dB                      | -30.6dB                       |
| Dipole2000 TSL Parameters |                               |                               |
| (feed point 2000MHz)      |                               |                               |
| Parameters                | Measured data                 | Target (Ref. Value)           |
| Impedance                 | 51.1 $\Omega$ -3.37j $\Omega$ | 49.4 $\Omega$ -2.46j $\Omega$ |
| Return loss               | -30.6 dB                      | -31.9dB                       |
| Dipole2450 TSL Parameters |                               |                               |
| (feed point 2450MHz)      |                               |                               |
| Parameters                | Measured data                 | Target (Ref. Value)           |
| Impedance                 | 54.2 $\Omega$ +5.98j $\Omega$ | 53.3 $\Omega$ +6.38j $\Omega$ |
| Return loss               | -22.9 dB                      | -23.1dB                       |
| Dipole2600 TSL Parameters |                               |                               |
| (feed point 2600MHz)      |                               |                               |
| Parameters                | Measured data                 | Target (Ref. Value)           |
| Impedance                 | 48.4 $\Omega$ -6.71j $\Omega$ | 47.9 $\Omega$ -7.80j $\Omega$ |
| Return loss               | -22.5 dB                      | -21.7dB                       |
| Dipole3300 TSL Parameters |                               |                               |
| (feed point 3300MHz)      |                               |                               |
| Parameters                | Measured data                 | Target (Ref. Value)           |
| Impedance                 | 54.2 $\Omega$ -6.1j $\Omega$  | 54.7 $\Omega$ -6.3j $\Omega$  |

|                           |               |                     |
|---------------------------|---------------|---------------------|
| Return loss               | -23.1dB       | -22.5dB             |
| Dipole3500 TSL Parameters |               |                     |
| (feed point 3500MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 53.3Ω+4.48jΩ  | 52.6Ω+3.5jΩ         |
| Return loss               | -29.1 dB      | -27.4dB             |
| Dipole3700 TSL Parameters |               |                     |
| (feed point 3700MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 47.6Ω+1.99jΩ  | 48.3Ω+1.1jΩ         |
| Return loss               | -34.5 dB      | -33.6dB             |
| Dipole3900 TSL Parameters |               |                     |
| (feed point 3900MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 50.1Ω-5.48jΩ  | 48.3Ω-4.9jΩ         |
| Return loss               | -26.7 dB      | -25.6dB             |
| (feed point 4100MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 57.6Ω-1.70jΩ  | 59.0Ω-0.8jΩ         |
| Return loss               | -20.8 dB      | -21.6dB             |
| Dipole4200 TSL Parameters |               |                     |
| (feed point 4300MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 53.9Ω-1.52jΩ  | 52.1Ω-1.6jΩ         |
| Return loss               | -33.5 dB      | -31.7dB             |
| Dipole4600 TSL Parameters |               |                     |
| (feed point 4500MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 46.9Ω-5.14jΩ  | 46.4Ω-4.5jΩ         |
| Return loss               | -25.2 dB      | -24.5dB             |
| (feed point 4700MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 54.8Ω-2.91jΩ  | 55.9Ω-3.20jΩ        |
| Return loss               | -25.4 dB      | -24.0dB             |
| Dipole4900 TSL Parameters |               |                     |
| (feed point 4900MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 51.8Ω-4.40jΩ  | 50.6Ω-5.2jΩ         |
| Return loss               | -26.9 dB      | -25.7dB             |
| Dipole5GHz TSL Parameters |               |                     |
| (feed point 5200MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 51.2Ω-11.89jΩ | 50.2Ω-10.0jΩ        |
| Return loss               | -21.2 dB      | -20.0dB             |
| (feed point 5300MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 49.0Ω-6.40jΩ  | 47.2Ω-7.33jΩ        |
| Return loss               | -22.4 dB      | -21.9dB             |
| (feed point 5500MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 51.6Ω-6.61jΩ  | 52.0Ω-7.96jΩ        |
| Return loss               | -22.2 dB      | -21.9dB             |
| (feed point 5600MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 53.6Ω-4.31jΩ  | 55.7Ω-3.78jΩ        |
| Return loss               | -23.1 dB      | -23.8dB             |
| (feed point 5800MHz)      |               |                     |

| Parameters                | Measured data | Target (Ref. Value) |
|---------------------------|---------------|---------------------|
| Impedance                 | 51.8Ω-6.96jΩ  | 53.7Ω-5.87jΩ        |
| Return loss               | -22.9 dB      | -23.5dB             |
| Dipole6500 TSL Parameters |               |                     |
| (feed point 6500MHz)      |               |                     |
| Parameters                | Measured data | Target (Ref. Value) |
| Impedance                 | 52.3Ω-3.6jΩ   | 51.1Ω-2.2jΩ         |
| Return loss               | -31.1 dB      | -32.3dB             |