



No.I22Z62189-SEM01



# SAR TEST REPORT

No. I22Z62189-SEM01

For

**HMD Global Oy**

**Smart Phone**

**Model Name: N156DL**

with

**Hardware Version: V1.0**

**Software Version: 02US\_0\_043**

**FCC ID: 2AJOTTA-1560**

**Issued Date: 2023-1-18**

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## **REPORT HISTORY**

| <b>Report Number</b> | <b>Revision</b> | <b>Issue Date</b> | <b>Description</b>              |
|----------------------|-----------------|-------------------|---------------------------------|
| I22Z62189-SEM01      | Rev.0           | 2023-1-18         | Initial creation of test report |

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## 1 Test Laboratory

### 1.1 Testing Location

|               |  |
|---------------|--|
| Company Name: | CTTL   |
| Address:      | No. 52, Huayuan North Road, Haidian District, Beijing, P. R. China 100191. |

### 1.2 Testing Environment

|                             |                |
|-----------------------------|----------------|
| Temperature:                | 18°C~25°C,     |
| Relative humidity:          | 30%~ 70%       |
| Ground system resistance:   | < 0.5 $\Omega$ |
| Ambient noise & Reflection: | < 0.012 W/kg   |

### 1.3 Project Data


|                     |                   |
|---------------------|-------------------|
| Project Leader:     | Qi Dianyuan       |
| Test Engineer:      | Yao Juming        |
| Testing Start Date: | December 23, 2022 |
| Testing End Date:   | January 15, 2023  |

### 1.4 Signature



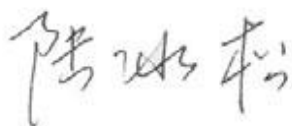
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**Yao Juming**  
(Prepared this test report)



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**Qi Dianyuan**  
(Reviewed this test report)



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**Lu Bingsong**  
Deputy Director of the laboratory  
(Approved this test report)

## 2 Statement of Compliance

The maximum results of Specific Absorption Rate (SAR) found during testing for HMD Global Oy Smart Phone, N156DL is as follows:

**Table 2.1: Highest Reported SAR (1g)**

| Technology Band | Head<br>(Separation<br>Distance<br>0mm) | Hotspot<br>(Separation<br>Distance<br>10mm) | Body-Worn<br>(Separation<br>Distance<br>15mm) | Phablet<br>SAR(10g)<br>(Separation<br>Distance<br>0mm) | Equipment<br>Class |
|-----------------|---|---|---|--|--------------------|
| GSM850          | 0.37                                    | 0.39  | 0.39  | /  | PCE                |
| GSM1900         | 0.28                                    | 1.10  | 0.55  | 2.48   |                    |
| WCDMA1900       | 0.26                                    | 0.96  | 0.38  | 3.35   |                    |
| WCDMA1700       | 0.22                                    | 1.08  | 1.33  | 3.19   |                    |
| WCDMA 850       | 0.35                                    | 0.44  | 0.44  | /  |                    |
| LTE Band2       | 0.26                                    | 1.09  | 0.34  | 3.16   |                    |
| LTE Band5       | 0.46                                    | 0.48  | 0.48  | /  |                    |
| LTE Band12      | 0.30                                    | 0.54  | 0.54  | /  |                    |
| LTE Band13      | 0.40                                    | 0.52  | 0.52  | /  |                    |
| LTE Band41-PC3  | 0.08                                    | 0.60  | 0.62  | 2.94   |                    |
| LTE Band41-PC2  | 0.11                                    | 0.83  | 0.58  | 3.00   |                    |
| LTE Band66      | 0.20                                    | 1.19  | 1.18  | 3.04   |                    |
| LTE Band71      | 0.31                                    | 0.57  | 0.57  | /  |                    |
| WLAN 2.4GHz     | 1.06                                    | 0.34  | 0.18  | 1.20   | DTS                |
| WLAN 5GHz       | 0.52                                    | 0.90  | 0.72  | 1.74   | NII                |
| BT              | 0.03                                    | 0.02  | 0.02  | 0.06   | DSS                |

The SAR values found for the Mobile Phone are below the maximum recommended levels of 1.6 W/kg as averaged over any 1g tissue according to the ANSI C95.1-1992.

For body operation, this device has been tested and meets FCC RF exposure guidelines when used with any accessory that contains no metal and which provides a minimum separation distance of 10 mm between this device and the body of the user. Use of other accessories may not ensure compliance with FCC RF exposure guidelines.

The EUT battery must be fully charged and checked periodically during the test to ascertain uniform power output.

The measurement together with the test system set-up is described in annex C of this test report. A detailed description of the equipment under test can be found in chapter 4 of this test report. The highest reported SAR value is obtained at the case of **(Table 2.1)**, and the values are:

**Head: 1.06 W/kg (1g)**

**Body: 1.33 W/kg (1g)**

Remark:

This device supports both LTE B4 and LTE B66. Since the supported frequency span for LTE B4 falls completely within the supports frequency span for LTE B66, both LTE bands have the same target power, and both LTE bands share the same transmission path; therefore, SAR was only assessed for LTE B66.

**Table 2.2: The sum of SAR values for Main antenna + WiFi-2.4G**

|                                   | Position                  | Main antenna | WiFi-2.4G | Sum         |
|-----------------------------------|---------------------------|--------------|-----------|-------------|
| <b>Highest SAR value for Head</b> | Left head, Touch (LTE B5) | 0.46         | 1.06      | <b>1.52</b> |
| <b>Highest SAR value for Body</b> | Rear 10mm (WCDMA B4)      | 0.86         | 0.34      | <b>1.20</b> |
|                                   | Rear 15mm (WCDMA B4)      | 1.33         | 0.18      | <b>1.51</b> |

**Table 2.3: The sum of SAR values for Main antenna+WiFi-5G+BT**

|                                   | Position                  | Main antenna | WiFi-5G | BT   | Sum         |
|-----------------------------------|---------------------------|--------------|---------|------|-------------|
| <b>Highest SAR value for Head</b> | Left head, Touch (LTE B5) | 0.46         | 0.52    | 0.02 | <b>1.00</b> |
| <b>Highest SAR value for Body</b> | Rear 10mm (LTE B41-PC3)   | 0.60         | 0.90    | 0.02 | <b>1.52</b> |
|                                   | Rear 15mm (LTE B41-PC2)   | 0.58         | 0.72    | 0.02 | <b>1.32</b> |

**Conclusion:**

According to the above tables, the sum of reported SAR values is <math>< 1.6\text{W/kg}</math>. So the simultaneous transmission SAR with volume scans is not required.

According to the above tables, the highest sum of reported SAR values is **1.52 W/kg (1g)**. The detail for simultaneous transmission consideration is described in chapter 13.

### 3 Client Information

#### 3.1 Applicant Information

|                 |   |
|-----------------|---|
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#### 3.2 Manufacturer Information

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|-----------------|---|
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| Contact Email:  | reza.serafat@hmdglobal.com                  |
| Telephone:      | +491735287964                               |
| Fax:            | /   |



## 4 Equipment Under Test (EUT) and Ancillary Equipment (AE)

### 4.1 About EUT

|                                     |  |
|-------------------------------------|--|
| Description:                        | Smart Phone  |
| Model name:                         | N156DL   |
| Operating mode(s):                  | GSM850/1900,<br>WCDMA B2/B4/B5<br>LTE Band 2/4/5/12/13/41/66/71<br>BT, Wi-Fi 2.4G/5G |
| Tested Tx Frequency:                | 824 – 849 MHz (GSM 850)  |
|                                     | 1850 – 1910 MHz (GSM 1900)   |
|                                     | 824 – 849 MHz (WCDMA 850 Band V)   |
|                                     | 1850 – 1910 MHz (WCDMA1900 Band II)  |
|                                     | 1710-1755 MHz (WCDMA1700 Band IV)  |
|                                     | 699.7 – 715.3 MHz (LTE Band 12)  |
|                                     | 779.5 – 784.5 MHz (LTE Band 13)  |
|                                     | 2498.5 – 2687.5 MHz (LTE Band41)   |
|                                     | 1710.7 – 1779.3 MHz (LTE Band 66)  |
|                                     | 665.5 – 695.5 MHz (LTE Band 71)  |
|                                     | 2412 – 2462 MHz (Wi-Fi 2.4G)   |
|                                     | 5180 – 5240 MHz (Wi-Fi 5.2G)   |
|                                     | 5260 – 5320 MHz (Wi-Fi 5.3G)   |
|                                     | 5500 – 5720 MHz (Wi-Fi 5.5G)   |
| 5745 – 5825 MHz (Wi-Fi 5.8G)        |  |
| 2400 – 2483.5 MHz (Bluetooth)       |  |
| GPRS/EGPRS Multislot Class:         | 12   |
| Test device production information: | Production unit  |
| Device type:                        | Portable device  |
| Antenna type:                       | Integrated antenna   |
| Hotspot mode:                       | Support  |

#### 4.2 Internal Identification of EUT used during the test

| EUT ID* | IMEI            | HW Version | SW Version |
|---------|-----------------|------------|------------|
| EUT1    | 350817210019744 | V1.0       | 02US_0_043 |
| EUT2    | 350817210018050 | V1.0       | 02US_0_043 |
| EUT3    | 350817210018183 | V1.0       | 02US_0_043 |
| EUT4    | 864862040017806 | V1.0       | 02US_0_043 |
| EUT5    | 350817210014844 | V1.0       | 02US_0_043 |

\*EUT ID: is used to identify the test sample in the lab internally.

**Note:** It is performed to test SAR with the EUT1~3 and conducted power with the EUT4~5.

#### 4.3 Internal Identification of AE used during the test

| AE ID* | Description | Model       | SN | Manufacturer                          |
|--------|-------------|-------------|----|---------------------------------------|
| AE1    | Battery     | TN-BP3000N1 | /  | Guangdong Fenghua New Energy Co.,Ltd. |
| AE2    | Battery     | TN-BP3000N1 | /  | Dongguan Ganfeng Electronics Co., Ltd |

\*AE ID: is used to identify the test sample in the lab internally.

## 5 TEST METHODOLOGY

### 5.1 Applicable Limit Regulations

**ANSI C95.1–1992:**IEEE Standard for Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz.

It specifies the maximum exposure limit of **1.6 W/kg** as averaged over any 1 gram of tissue for portable devices being used within 20 cm of the user in the uncontrolled environment.

### 5.2 Applicable Measurement Standards

**IEEE 1528–2013:** Recommended Practice for Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques.

**KDB447498 D01: General RF Exposure Guidance v06:** Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies.

**KDB648474 D04 Handset SAR v01r03:** SAR Evaluation Considerations for Wireless Handsets.

**KDB941225 D01 SAR test for 3G devices v03r01:** SAR Measurement Procedures for 3G Devices

**KDB941225 D05 SAR for LTE Devices v02r05:** SAR Evaluation Considerations for LTE Devices

**KDB941225 D06 Hotspot Mode SAR v02r01:** SAR Evaluation Procedures for Portable Devices with Wireless Router Capabilities

**KDB248227 D01 802.11 Wi-Fi SAR v02r02:** SAR GUIDANCE FOR IEEE 802.11 (Wi-Fi) TRANSMITTERS

**KDB865664 D01 SAR measurement 100 MHz to 6 GHz v01r04:** SAR Measurement Requirements for 100 MHz to 6 GHz.

**KDB865664 D02 RF Exposure Reporting v01r02:** RF Exposure Compliance Reporting and Documentation Considerations

## 6 Specific Absorption Rate (SAR)

### 6.1 Introduction

SAR is related to the rate at which energy is absorbed per unit mass in an object exposed to a radio field. The SAR distribution in a biological body is complicated and is usually carried out by experimental techniques or numerical modeling. The standard recommends limits for two tiers of groups, occupational/controlled and general population/uncontrolled, based on a person's awareness and ability to exercise control over his or her exposure. In general, occupational/controlled exposure limits are higher than the limits for general population/uncontrolled.

### 6.2 SAR Definition

The SAR definition is the time derivative (rate) of the incremental energy ( $dW$ ) absorbed by (dissipated in) an incremental mass ( $dm$ ) contained in a volume element ( $dv$ ) of a given density ( $\rho$ ). The equation description is as below:

$$SAR = \frac{d}{dt} \left( \frac{dW}{dm} \right) = \frac{d}{dt} \left( \frac{dW}{\rho dv} \right)$$

SAR is expressed in units of Watts per kilogram (W/kg)

SAR measurement can be either related to the temperature elevation in tissue by

$$SAR = c \left( \frac{\delta T}{\delta t} \right)$$

Where:  $C$  is the specific heat capacity,  $\delta T$  is the temperature rise and  $\delta t$  is the exposure duration, or related to the electrical field in the tissue by

$$SAR = \frac{\sigma |E|^2}{\rho}$$

Where:  $\sigma$  is the conductivity of the tissue,  $\rho$  is the mass density of tissue and  $E$  is the RMS electrical field strength.

However for evaluating SAR of low power transmitter, electrical field measurement is typically applied.

## 7 Tissue Simulating Liquids

### 7.1 Targets for tissue simulating liquid

Table 7.1: Targets for tissue simulating liquid

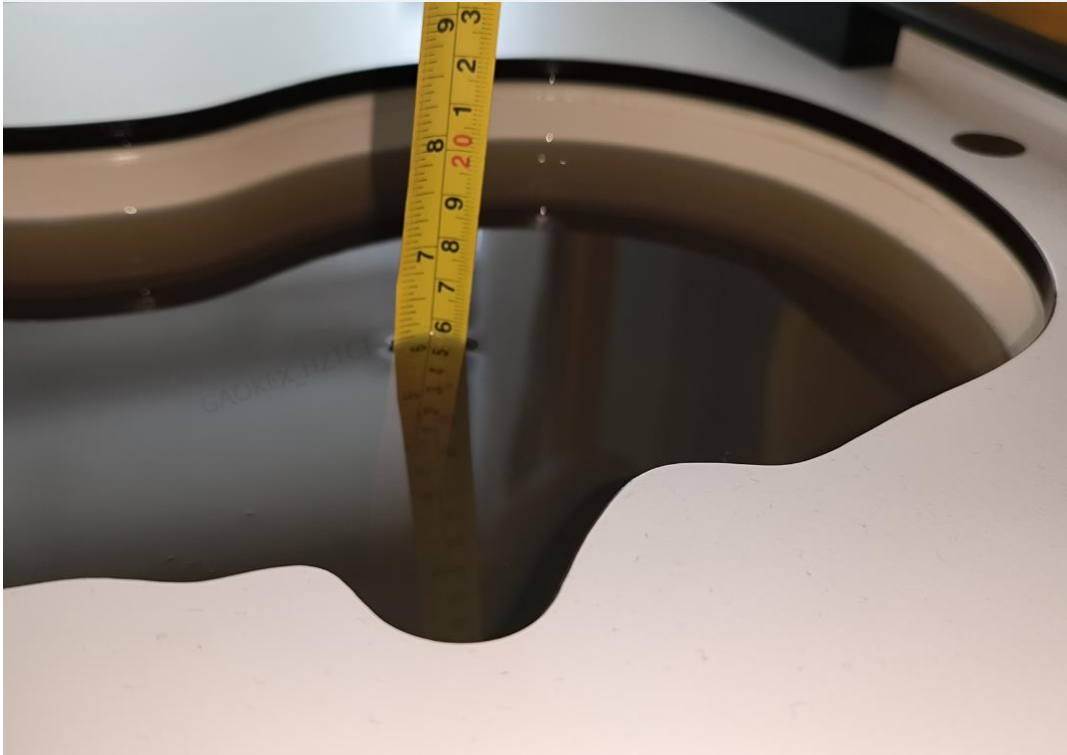
| Frequency(MHz) | Liquid Type | Conductivity( $\sigma$ ) | $\pm 5\%$ Range | Permittivity( $\epsilon$ ) | $\pm 5\%$ Range |
|----------------|-------------|--------------------------|-----------------|----------------------------|-----------------|
| 750            | Head        | 0.89                     | 0.85~0.93       | 41.94                      | 39.8~44.0       |
| 900            | Head        | 0.97                     | 0.92~1.02       | 41.50                      | 39.40~43.60     |
| 1800           | Head        | 1.40                     | 1.33~1.47       | 40.00                      | 38.00~42.00     |
| 1900           | Head        | 1.40                     | 1.33~1.47       | 40.00                      | 38.00~42.00     |
| 2450           | Head        | 1.80                     | 1.71~1.89       | 39.20                      | 37.30~41.10     |
| 2600           | Head        | 1.96                     | 1.86~2.06       | 39.01                      | 37.06~40.96     |
| 5250           | Head        | 4.71                     | 4.47~4.95       | 35.93                      | 34.13~37.73     |
| 5600           | Head        | 5.07                     | 4.82~5.32       | 35.53                      | 33.8~37.3       |
| 5750           | Head        | 5.22                     | 4.96~5.48       | 35.36                      | 33.59~37.13     |

### 7.2 Dielectric Performance

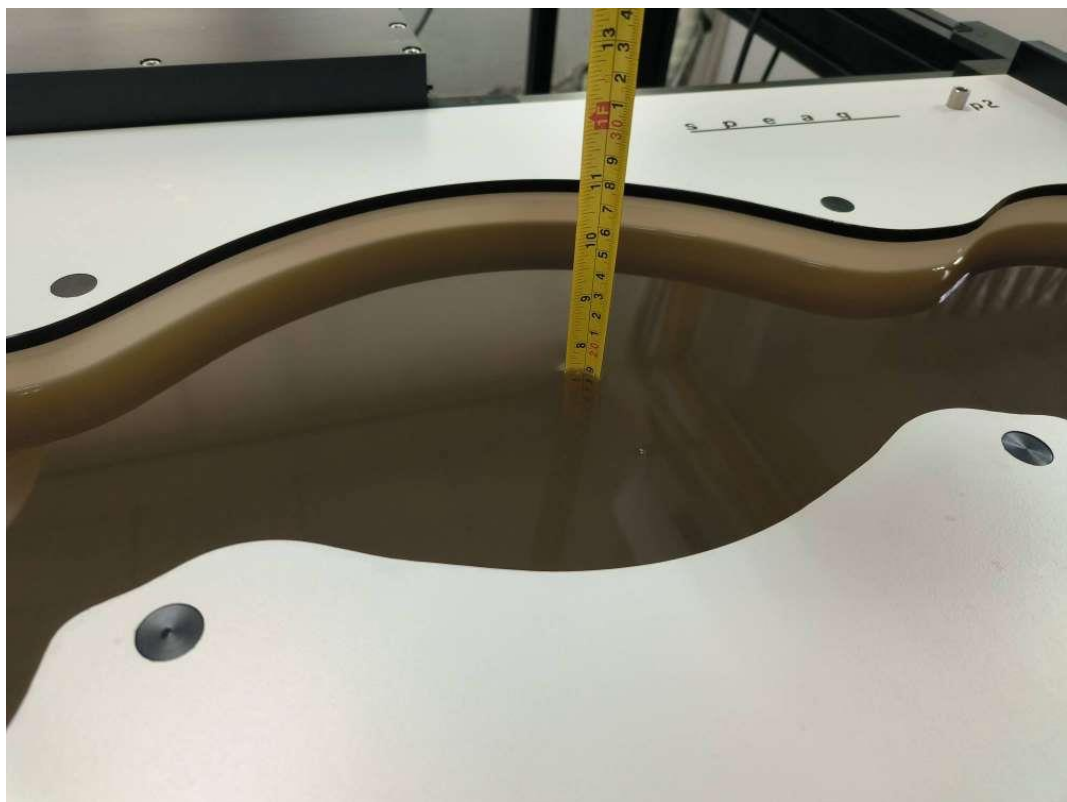
Table 7.2: Dielectric Performance of Tissue Simulating Liquid

| Measurement Date<br>yyyy/mm/dd | Frequency | Type | Permittivity<br>$\epsilon$ | Drift<br>(%) | Conductivity<br>$\sigma$ (S/m) | Drift<br>(%) |
|--------------------------------|-----------|------|----------------------------|--------------|--------------------------------|--------------|
| 2022-12-23                     | 750MHz    | Head | 42.33                      | 0.93         | 0.874                          | -1.80        |
| 2022-12-27                     | 835MHz    | Head | 41.15                      | -0.84        | 0.898                          | -0.22        |
| 2022-12-28                     | 1800MHz   | Head | 40.79                      | 1.98         | 1.384                          | -1.14        |
| 2022-12-29                     | 1900MHz   | Head | 40.35                      | 0.88         | 1.412                          | 0.86         |
| 2023-1-4                       | 2450MHz   | Head | 39.18                      | -0.05        | 1.841                          | 2.28         |
| 2023-1-5                       | 2600MHz   | Head | 38.75                      | -0.67        | 1.892                          | -3.47        |
| 2023-1-8                       | 5250MHz   | Head | 35.46                      | -1.31        | 4.612                          | -2.08        |
| 2023-1-13                      | 5600MHz   | Head | 35.38                      | -0.42        | 4.92                           | -2.96        |
| 2023-1-15                      | 5750MHz   | Head | 35.14                      | -0.62        | 5.157                          | -1.21        |

Note: The liquid temperature is 22.0°C



**Picture 7-1 Liquid depth in the Head Phantom**

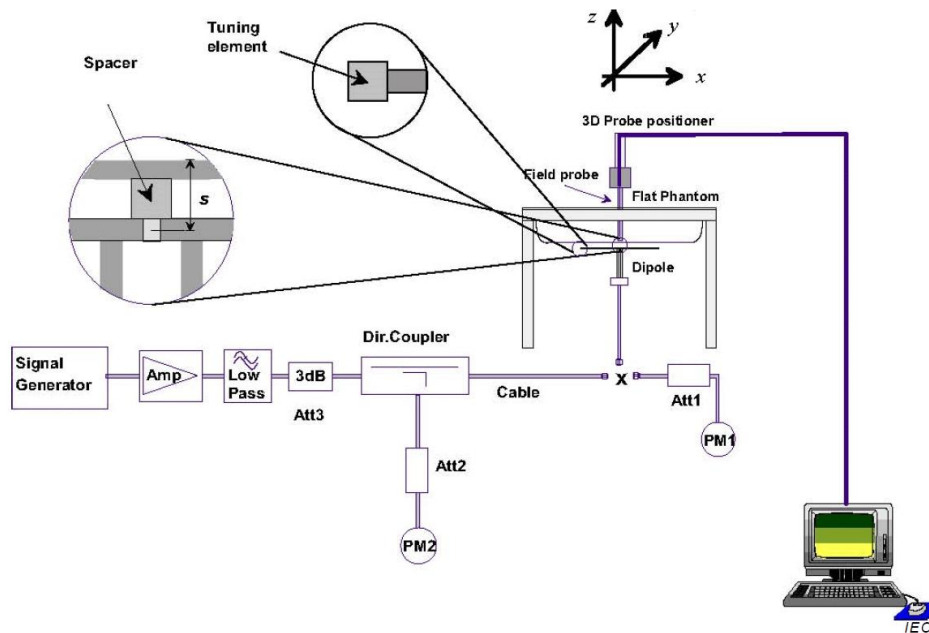


**Picture 7-2 Liquid depth in the Flat Phantom**

## 8 System verification

### 8.1 System Setup

In the simplified setup for system evaluation, the DUT is replaced by a calibrated dipole and the power source is replaced by a continuous wave that comes from a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the SAM twin phantom with the correct distance holder. The distance holder should touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The equipment setup is shown below:



Picture 8.1 System Setup for System Evaluation



Picture 8.2 Photo of Dipole Setup

## 8.2 System Verification

SAR system verification is required to confirm measurement accuracy, according to the tissue dielectric media, probe calibration points and other system operating parameters required for measuring the SAR of a test device. The system verification must be performed for each frequency band and within the valid range of each probe calibration point required for testing the device.

The system verification results are required that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR. The details are presented in annex B.

**Table 8.1: System Verification of Head**

| Measurement Date<br>(yyyy-mm-dd) | Frequency | Target value<br>(W/kg) |                | Measured value<br>(W/kg) |                | Deviation       |                |
|----------------------------------|-----------|------------------------|----------------|--------------------------|----------------|-----------------|----------------|
|                                  |           | 10 g<br>Average        | 1 g<br>Average | 10 g<br>Average          | 1 g<br>Average | 10 g<br>Average | 1 g<br>Average |
| 2022-12-23                       | 750MHz    | 5.64                   | 8.63           | 5.52                     | 8.48           | -2.13%          | -1.74%         |
| 2022-12-27                       | 835MHz    | 6.34                   | 9.73           | 6.28                     | 9.72           | -0.95%          | -0.10%         |
| 2022-12-28                       | 1800MHz   | 20.20                  | 38.80          | 20.04                    | 39.00          | -0.79%          | 0.52%          |
| 2022-12-29                       | 1900MHz   | 20.70                  | 39.70          | 20.76                    | 39.68          | 0.29%           | -0.05%         |
| 2023-1-4                         | 2450MHz   | 24.9                   | 52.7           | 25.3                     | 53.6           | 1.69%           | 1.71%          |
| 2023-1-5                         | 2600MHz   | 25.2                   | 55.8           | 24.9                     | 55.0           | -1.27%          | -1.43%         |
| 2023-1-8                         | 5250MHz   | 22.3                   | 78.1           | 23.0                     | 79.3           | 3.14%           | 1.54%          |
| 2023-1-13                        | 5600MHz   | 23.7                   | 83.2           | 23.5                     | 82.5           | -0.84%          | -0.84%         |
| 2023-1-15                        | 5750MHz   | 22.8                   | 80.4           | 22.7                     | 78.1           | -0.44%          | -2.86%         |



## 9 Measurement Procedures

### 9.1 Tests to be performed

In order to determine the highest value of the peak spatial-average SAR of a handset, all device positions, configurations and operational modes shall be tested for each frequency band according to steps 1 to 3 below. A flowchart of the test process is shown in picture 9.1.

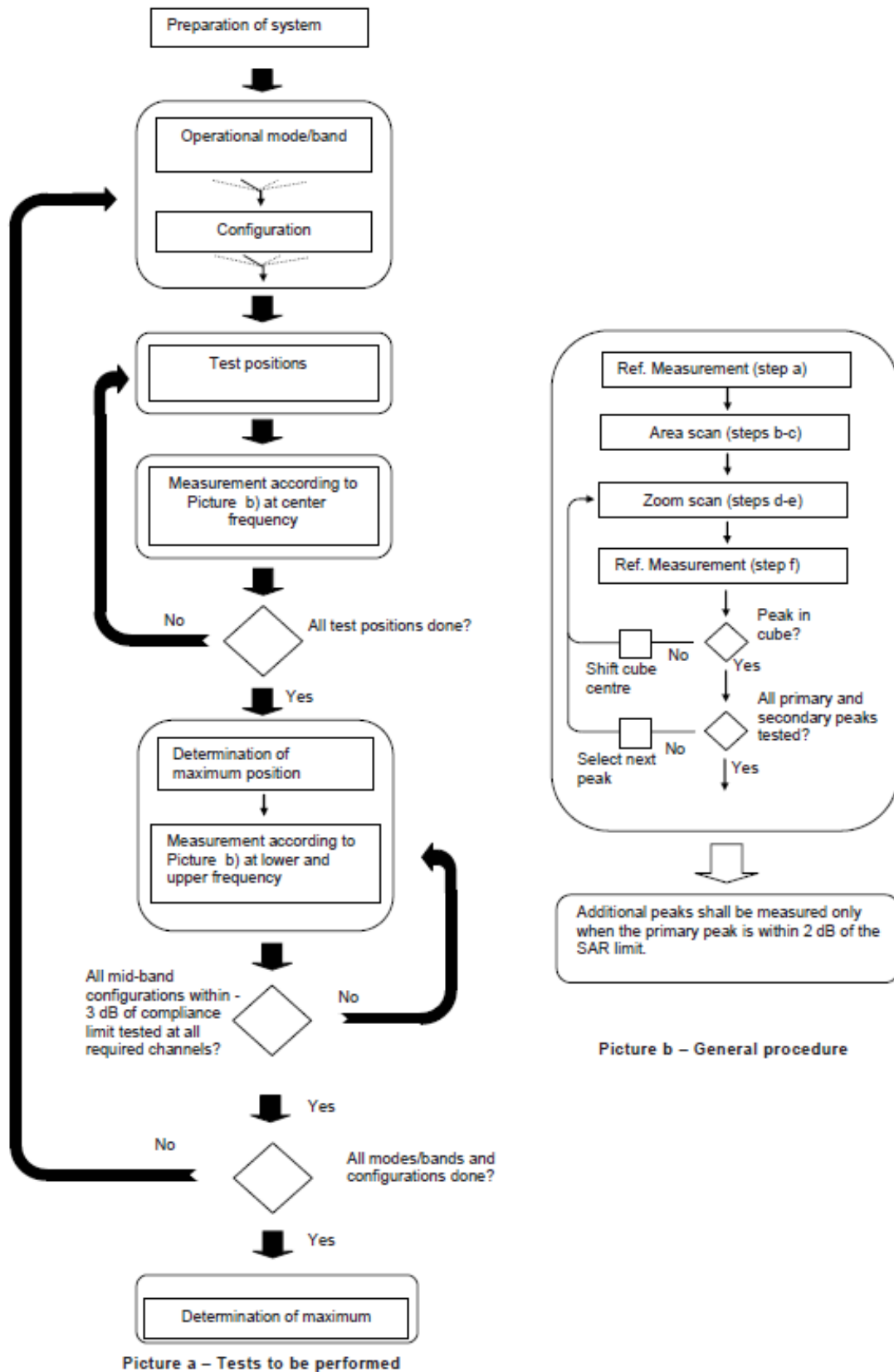
**Step 1:** The tests described in 9.2 shall be performed at the channel that is closest to the centre of the transmit frequency band ( $f_c$ ) for:

- a) all device positions (cheek and tilt, for both left and right sides of the SAM phantom, as described in annex D),
- b) all configurations for each device position in a), e.g., antenna extended and retracted, and
- c) all operational modes, e.g., analogue and digital, for each device position in a) and configuration in b) in each frequency band.

If more than three frequencies need to be tested according to 11.1 (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 highest peak spatial-average SAR determined in Step 1, perform all tests described in 9.2 at all other test frequencies, i.e., 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 shall be tested as well.

**Step 3:** Examine all data to determine the highest value of the peak spatial-average SAR found in Steps 1 to 2.



Picture 9.1 Block diagram of the tests to be performed

## 9.2 General Measurement Procedure

The area and zoom scan resolutions specified in the table below must be applied to the SAR measurements and fully documented in SAR reports to qualify for TCB approval. Probe boundary effect error compensation is required for measurements with the probe tip closer than half a probe tip diameter to the phantom surface. Both the probe tip diameter and sensor offset distance must satisfy measurement protocols; to ensure probe boundary effect errors are minimized and the higher fields closest to the phantom surface can be correctly measured and extrapolated to the phantom surface for computing 1-g SAR. Tolerances of the post-processing algorithms must be verified by the test laboratory for the scan resolutions used in the SAR measurements, according to the reference distribution functions specified in IEEE Std 1528-2003. The results should be documented as part of the system validation records and may be requested to support test results when all the measurement parameters in the following table are not satisfied.

|   |                                    | $\leq 3$ GHz   | $> 3$ GHz   |  |
|---|------------------------------------|--|---|--|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface  |                                    | $5 \pm 1$ mm   | $\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm                            |  |
| Maximum probe angle from probe axis to phantom surface normal at the measurement location   |                                    | $30^\circ \pm 1^\circ$   | $20^\circ \pm 1^\circ$  |  |
| Maximum area scan spatial resolution: $\Delta x_{Area}, \Delta y_{Area}$  |                                    | $\leq 2$ GHz: $\leq 15$ mm<br>2 – 3 GHz: $\leq 12$ mm  | 3 – 4 GHz: $\leq 12$ mm<br>4 – 6 GHz: $\leq 10$ mm                            |  |
|   |                                    | When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device. |   |  |
| Maximum zoom scan spatial resolution: $\Delta x_{Zoom}, \Delta y_{Zoom}$  |                                    | $\leq 2$ GHz: $\leq 8$ mm<br>2 – 3 GHz: $\leq 5$ mm*   | 3 – 4 GHz: $\leq 5$ mm*<br>4 – 6 GHz: $\leq 4$ mm*                            |  |
| Maximum zoom scan spatial resolution, normal to phantom surface   | uniform grid: $\Delta z_{Zoom}(n)$ | $\leq 5$ mm  | 3 – 4 GHz: $\leq 4$ mm<br>4 – 5 GHz: $\leq 3$ mm<br>5 – 6 GHz: $\leq 2$ mm    |  |
|   | graded grid                        | $\Delta z_{Zoom}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface   | $\leq 4$ mm   | 3 – 4 GHz: $\leq 3$ mm<br>4 – 5 GHz: $\leq 2.5$ mm<br>5 – 6 GHz: $\leq 2$ mm |
|   |                                    | $\Delta z_{Zoom}(n>1)$ : between subsequent points   | $\leq 1.5 \cdot \Delta z_{Zoom}(n-1)$   |  |
| Minimum zoom scan volume  | x, y, z                            | $\geq 30$ mm   | 3 – 4 GHz: $\geq 28$ mm<br>4 – 5 GHz: $\geq 25$ mm<br>5 – 6 GHz: $\geq 22$ mm |  |
| Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.<br>* When zoom scan is required and the <i>reported</i> SAR from the area scan based 1-g SAR estimation procedures of KDB 447498 is $\leq 1.4$ W/kg, $\leq 8$ mm, $\leq 7$ mm and $\leq 5$ mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz. |                                    |  |   |  |

### 9.3 WCDMA Measurement Procedures for SAR

The following procedures are applicable to WCDMA handsets operating under 3GPP Release99, Release 5 and Release 6. The default test configuration is to measure SAR with an established radio link between the DUT and a communication test set using a 12.2kbps RMC (reference measurement channel) configured in Test Loop Mode 1. SAR is selectively confirmed for other physical channel configurations (DPCCH & DPDCH<sub>n</sub>), HSDPA and HSPA (HSUPA/HSDPA) modes according to output power, exposure conditions and device operating capabilities. Both uplink and downlink should be configured with the same RMC or AMR, when required. SAR for Release 5 HSDPA and Release 6 HSPA are measured using the applicable FRC (fixed reference channel) and E-DCH reference channel configurations. Maximum output power is verified according to applicable versions of 3GPP TS 34.121 and SAR must be measured according to these maximum output conditions. When Maximum Power Reduction (MPR) is not implemented according to Cubic Metric (CM) requirements for Release 6 HSPA, the following procedures do not apply.

#### For Release 5 HSDPA Data Devices:

| Sub-test | $\beta_c$ | $\beta_d$ | $\beta_d$ (SF) | $\beta_c / \beta_d$ | $\beta_{hs}$ | CM/dB |
|----------|-----------|-----------|----------------|---------------------|--------------|-------|
| 1        | 2/15      | 15/15     | 64             | 2/15                | 4/15         | 0.0   |
| 2        | 12/15     | 15/15     | 64             | 12/15               | 24/25        | 1.0   |
| 3        | 15/15     | 8/15      | 64             | 15/8                | 30/15        | 1.5   |
| 4        | 15/15     | 4/15      | 64             | 15/4                | 30/15        | 1.5   |

#### For Release 6 HSPA Data Devices

| Sub-test | $\beta_c$ | $\beta_d$ | $\beta_d$ (SF) | $\beta_c / \beta_d$ | $\beta_{hs}$ | $\beta_{ec}$ | $\beta_{ed}$                                   | $\beta_{ed}$ (SF) | $\beta_{ed}$ (codes) | CM (dB) | MPR (dB) | AG Index | E-TFCI |
|----------|-----------|-----------|----------------|---------------------|--------------|--------------|--|-------------------|----------------------|---------|----------|----------|--------|
| 1        | 11/15     | 15/15     | 64             | 11/15               | 22/15        | 209/225      | 1039/225                                       | 4                 | 1                    | 1.5     | 1.5      | 20       | 75     |
| 2        | 6/15      | 15/15     | 64             | 6/15                | 12/15        | 12/15        | 12/15  | 4                 | 1                    | 1.5     | 1.5      | 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                    | 1.5     | 1.5      | 15       | 92     |
| 4        | 2/15      | 15/15     | 64             | 2/15                | 4/15         | 4/15         | 56/75  | 4                 | 1                    | 1.5     | 1.5      | 17       | 71     |
| 5        | 15/15     | 15/15     | 64             | 15/15               | 24/15        | 30/15        | 134/15   | 4                 | 1                    | 1.5     | 1.5      | 21       | 81     |

#### Rel.8 DC-HSDPA (Cat 24)

SAR test exclusion for Rel.8 DC-HSDPA must satisfy the SAR test exclusion requirements of Rel.5 HSDPA. SAR test exclusion for DC-HSDPA devices is determined by power measurements according to the H-Set 12, Fixed Reference Channel (FRC) configuration in Table C.8.1.12 of 3GPP TS 34.121-1. A primary and a secondary serving HS-DSCH Cell are required to perform the power measurement and for the results to qualify for SAR test exclusion.

## 9.4 SAR Measurement for LTE

SAR tests for LTE are performed with a base station simulator, Rohde & Schwarz CMW500. Closed loop power control was used so the UE transmits with maximum output power during SAR testing. All powers were measured with the CMW 500.

It is performed for conducted power and SAR based on the KDB941225 D05.

SAR is evaluated separately according to the following procedures for the different test positions in each exposure condition – head, body, body-worn accessories and other use conditions. The procedures in the following subsections are applied separately to test each LTE frequency band.

### 1) QPSK with 1 RB allocation

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

### 2) QPSK with 50% RB allocation

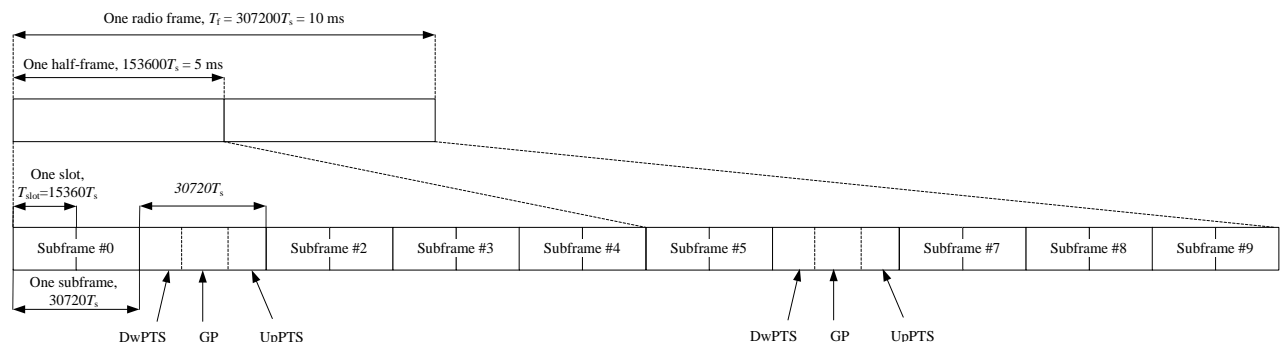
The procedures required for 1 RB allocation in 1) are applied to measure the SAR for QPSK with 50% RB allocation.

### 3) QPSK with 100% RB allocation

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

## TDD test:

TDD testing is performed using guidance from FCC KDB 941225 D05 and the SAR test guidance provided in April 2013 TCB works hop notes. TDD is tested at the highest duty factor using UL-DL configuration 0 with special subframe configuration 6 and applying the FDD LTE procedures in KDB 941225 D05. SAR testing is performed using the extended cyclic prefix listed in 3GPP TS 36.211.



**Figure 9.2: Frame structure type 2 (for 5 ms switch-point periodicity)**

**Table 9.1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS)**

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

**Table 9.2: Uplink-downlink configurations**

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

Duty factor is calculated by:

$$\begin{aligned}
 \text{Duty factor} &= \text{uplink frame} \cdot 6 + \text{UpPTS} \cdot 2 / \text{one frame length} \\
 &= (30720 \cdot T_s + 6 + 5120 \cdot T_s \cdot 2) / 307200 \cdot T_s \\
 &= 0.633
 \end{aligned}$$

## 9.5 Bluetooth & Wi-Fi Measurement Procedures for SAR

Normal network operating configurations are not suitable for measuring the SAR of 802.11 transmitters in general. Unpredictable fluctuations in network traffic and antenna diversity conditions can introduce undesirable variations in SAR results. The SAR for these devices should be measured using chipset based test mode software to ensure that the results are consistent and reliable.

Chipset based test mode software is hardware dependent and generally varies among manufacturers. The device operating parameters established in a test mode for SAR measurements must be identical to those programmed in production units, including output power levels, amplifier gain settings and other RF performance tuning parameters. The test frequencies should correspond to actual channel frequencies defined for domestic use. SAR for devices with switched diversity should be measured with only one antenna transmitting at a time during each SAR measurement, according to a fixed modulation and data rate. The same data pattern should be used for all measurements.

## 9.6 Power Drift

To control the output power stability during the SAR test, DASY5 system calculates the power drift by measuring the E-field at the same location at the beginning and at the end of the measurement for each test position. These drift values can be found in section 14 labeled as: (Power Drift [dB]). This ensures that the power drift during one measurement is within 5%.

## 10 Area Scan Based 1-g SAR

### 10.1 Requirement of KDB

According to the KDB447498 D01, when the implementation is based the specific polynomial fit algorithm as presented at the 29th Bioelectromagnetics Society meeting (2007) and the estimated 1-gSAR is  $\leq 1.2$  W/kg, a zoom scan measurement is not required provided it is also not needed for any other purpose; for example, if the peak SAR location required for simultaneous transmission SAR test exclusion can be determined accurately by the SAR system or manually to discriminate between distinctive peaks and scattered noisy SAR distributions from area scans.

There must not be any warning or alert messages due to various measurement concerns identified by the SAR system; for example, noise in measurements, peaks too close to scan boundary, peaks are too sharp, spatial resolution and uncertainty issues etc. The SAR system verification must also demonstrate that the area scan estimated 1-g SAR is within 3% of the zoom scan 1-g SAR (See Annex B). When all the SAR results for each exposure condition in a frequency band and wireless mode are based on estimated 1-g SAR, the 1-g SAR for the highest SAR configuration must be determined by a zoom scan.

### 10.2 Fast SAR Algorithms

The approach is based on the area scan measurement applying a frequency dependent attenuation parameter. This attenuation parameter was empirically determined by analyzing a large number of phones. The MOTOROLA FAST SAR was developed and validated by the MOTOROLA Research Group in Ft. Lauderdale.

In the initial study, an approximation algorithm based on Linear fit was developed. The accuracy of the algorithm has been demonstrated across a broad frequency range (136-2450 MHz) and for both 1- and 10-g averaged SAR using a sample of 264 SAR measurements from 55 wireless handsets. For the sample size studied, the root-mean-squared errors of the algorithm are 1.2% and 5.8% for 1- and 10-g averaged SAR, respectively. The paper describing the algorithm in detail is expected to be published in August 2004 within the Special Issue of Transactions on MTT.

In the second step, the same research group optimized the fitting algorithm to an Polynomial fit whereby the frequency validity was extended to cover the range 30-6000MHz. Details of this study can be found in the BEMS 2007 Proceedings.

Both algorithms are implemented in DASY software.



## 11 Conducted Output Power

| Antenna      | Receiver on<br>(head scenario) | Receiver off+<br>Hotspot off<br>(body scenario) | Receiver off+<br>Hotspot on<br>(body/other scenario) |
|--------------|--------------------------------|---|--|
| Main Antenna | Power Level A1                 | Power Level B1                                  | Power Level C1                                       |

For WWAN, when the phone receiver is off and hotspot is off, the power reduction (Power level B1) will be implemented immediately at WCDMA B4 and LTE B25/B41(PC2)/B66 and normal power (Power Level A1) is applied for other bands. When the phone receiver is off and hotspot is on, the power reduction (Power Level C1) will be implemented immediately at GSM1900, WCDMA B2/B4 and LTE B2/B4/B41(PC3)/ B41(PC2)/B66 and normal power (Power Level A1) is applied for other bands. If receiver is on, normal Power (Power Level A1) is applied for all bands.

### 11.1 GSM Measurement result

**Table 11.1-1: The conducted power measurement results–GSM850 (Power Level A1/B1/C1)**

| GSM 850<br>Speech (GMSK)   | Measured timeslot-averaged<br>output power (dBm) |       |       | Tune up | calculation | Source-based time-averaged<br>output power (dBm) |       |       |
|----------------------------|--|-------|-------|---------|-------------|--|-------|-------|
|                            | 251  | 190   | 128   |         |             | 251  | 190   | 128   |
| 1 Txslot                   | 31.98  | 32.00 | 31.98 | 33.5    | /           | /  | /     | /     |
| GSM 850<br>GPRS (GMSK)     | Measured timeslot-averaged<br>output power (dBm) |       |       |         | calculation | Source-based time-averaged<br>output power (dBm) |       |       |
|                            | 251  | 190   | 128   |         |             | 251  | 190   | 128   |
| 1 Txslot                   | 32.05  | 32.03 | 32.03 | 33.5    | -9.03       | 23.02  | 23.00 | 23.00 |
| <b>2 Txslots</b>           | 30.75  | 30.74 | 30.73 | 31.5    | -6.02       | 24.73  | 24.72 | 24.71 |
| 3 Txslots                  | 28.80  | 28.78 | 28.77 | 29.5    | -4.26       | 24.54  | 24.52 | 24.51 |
| 4 Txslots                  | 26.76  | 26.77 | 26.75 | 27.5    | -3.01       | 23.75  | 23.76 | 23.74 |
| GSM 850<br>EGPRS<br>(GMSK) | Measured timeslot-averaged<br>output power (dBm) |       |       |         | calculation | Source-based time-averaged<br>output power (dBm) |       |       |
|                            | 251  | 190   | 128   |         |             | 251  | 190   | 128   |
| 1 Txslot                   | 32.03  | 32.01 | 32.02 | 33.5    | -9.03       | 23.00  | 22.98 | 22.99 |
| <b>2 Txslots</b>           | 30.74  | 30.73 | 30.73 | 31.5    | -6.02       | 24.72  | 24.71 | 24.71 |
| 3 Txslots                  | 28.80  | 28.77 | 28.77 | 29.5    | -4.26       | 24.54  | 24.51 | 24.51 |
| 4 Txslots                  | 26.77  | 26.76 | 26.75 | 27.5    | -3.01       | 23.76  | 23.75 | 23.74 |
| GSM 850<br>EGPRS (8PSK)    | Measured timeslot-averaged<br>output power (dBm) |       |       |         | calculation | Source-based time-averaged<br>output power (dBm) |       |       |
|                            | 251  | 190   | 128   |         |             | 251  | 190   | 128   |
| 1 Txslot                   | 26.85  | 26.73 | 26.62 | 27.5    | -9.03       | 17.82  | 17.70 | 17.59 |
| 2 Txslots                  | 24.63  | 24.63 | 24.56 | 25.5    | -6.02       | 18.61  | 18.61 | 18.54 |
| 3Txslots                   | 22.39  | 23.49 | 23.21 | 23.5    | -4.26       | 18.13  | 19.23 | 18.95 |
| 4 Txslots                  | 20.45  | 20.57 | 20.41 | 21.5    | -3.01       | 17.44  | 17.56 | 17.40 |

NOTES:

1) Division Factors

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

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

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

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

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

**According to the conducted power as above, the body measurements are performed with 2Txslots for GSM850.**

**Table 11.1-2: The conducted power measurement results-GSM1900 (Power Level A1/B1)**

| PCS1900<br>Speech (GMSK) | Measured timeslot-averaged<br>output power (dBm) |       |       | Tune up | calculation | Source-based time-averaged<br>output power (dBm) |       |       |
|--------------------------|--|-------|-------|---------|-------------|--|-------|-------|
|                          | 810  | 661   | 512   |         |             | 810  | 661   | 512   |
| 1 Txslot                 | 29.09  | 29.07 | 29.06 | 30.5    | /           | /  | /     | /     |
| PCS1900<br>GPRS (GMSK)   | Measured timeslot-averaged<br>output power (dBm) |       |       |         | calculation | Source-based time-averaged<br>output power (dBm) |       |       |
|                          | 810  | 661   | 512   |         |             | 810  | 661   | 512   |
| 1 Txslot                 | 29.13  | 29.09 | 29.10 | 30.5    | -9.03       | 20.10  | 20.06 | 20.07 |
| <b>2 Txslots</b>         | 27.86  | 27.80 | 27.80 | 28.5    | -6.02       | 21.84  | 21.78 | 21.78 |
| 3 Txslots                | 25.87  | 25.80 | 25.81 | 26.5    | -4.26       | 21.61  | 21.54 | 21.55 |
| 4 Txslots                | 23.86  | 23.80 | 23.82 | 24.5    | -3.01       | 20.85  | 20.79 | 20.81 |
| PCS1900<br>EGPRS (GMSK)  | Measured timeslot-averaged<br>output power (dBm) |       |       |         | calculation | Source-based time-averaged<br>output power (dBm) |       |       |
|                          | 810  | 661   | 512   |         |             | 810  | 661   | 512   |
| 1 Txslot                 | 29.11  | 29.08 | 29.09 | 30.5    | -9.03       | 20.08  | 20.05 | 20.06 |
| <b>2 Txslots</b>         | 27.84  | 27.79 | 27.79 | 28.5    | -6.02       | 21.82  | 21.77 | 21.77 |
| 3 Txslots                | 25.85  | 25.79 | 25.81 | 26.5    | -4.26       | 21.59  | 21.53 | 21.55 |
| 4 Txslots                | 23.84  | 23.79 | 23.82 | 24.5    | -3.01       | 20.83  | 20.78 | 20.81 |
| PCS1900<br>EGPRS (8PSK)  | Measured timeslot-averaged<br>output power (dBm) |       |       |         | calculation | Source-based time-averaged<br>output power (dBm) |       |       |
|                          | 810  | 661   | 512   |         |             | 810  | 661   | 512   |
| 1 Txslot                 | 25.69  | 25.62 | 25.74 | 26.5    | -9.03       | 16.66  | 16.59 | 16.71 |
| 2 Txslots                | 23.67  | 23.69 | 23.84 | 24.5    | -6.02       | 17.65  | 17.67 | 17.82 |
| 3Txslots                 | 21.62  | 21.83 | 21.93 | 22.5    | -4.26       | 17.36  | 17.57 | 17.67 |
| 4 Txslots                | 19.44  | 19.51 | 19.66 | 20.5    | -3.01       | 16.43  | 16.50 | 16.65 |

NOTES:

1) Division Factors

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

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

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

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

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

**According to the conducted power as above, the body measurements are performed with 2Txslots for GSM1900.**

**Table 11.1-3: The conducted power measurement results-GSM1900 (Power Level C1)**

| PCS1900<br>Speech (GMSK) | Measured timeslot-averaged<br>output power (dBm) |       |       | Tune up | calculation | Source-based time-averaged<br>output power (dBm) |       |       |
|--------------------------|--|-------|-------|---------|-------------|--|-------|-------|
|                          | 810  | 661   | 512   |         |             | 810  | 661   | 512   |
| 1 Txslot                 | 27.21  | 27.14 | 27.16 | 28      | /           | /  | /     | /     |
| PCS1900<br>GPRS (GMSK)   | Measured timeslot-averaged<br>output power (dBm) |       |       |         | calculation | Source-based time-averaged<br>output power (dBm) |       |       |
|                          | 810  | 661   | 512   |         |             | 810  | 661   | 512   |
| 1 Txslot                 | 27.31  | 27.21 | 27.25 | 28      | -9.03       | 18.28  | 18.18 | 18.22 |
| <b>2 Txslots</b>         | 24.34  | 24.28 | 24.31 | 26      | -6.02       | 18.32  | 18.26 | 18.29 |
| 3 Txslots                | 22.55  | 22.47 | 22.53 | 24      | -4.26       | 18.29  | 18.21 | 18.27 |
| 4 Txslots                | 21.30  | 21.16 | 21.25 | 22      | -3.01       | 18.29  | 18.15 | 18.24 |
| PCS1900<br>EGPRS (GMSK)  | Measured timeslot-averaged<br>output power (dBm) |       |       |         | calculation | Source-based time-averaged<br>output power (dBm) |       |       |
|                          | 810  | 661   | 512   |         |             | 810  | 661   | 512   |
| 1 Txslot                 | 27.26  | 27.18 | 27.21 | 28      | -9.03       | 18.23  | 18.15 | 18.18 |
| <b>2 Txslots</b>         | 24.28  | 24.25 | 24.27 | 26      | -6.02       | 18.26  | 18.23 | 18.25 |
| 3 Txslots                | 22.50  | 22.45 | 22.49 | 24      | -4.26       | 18.24  | 18.19 | 18.23 |
| 4 Txslots                | 21.25  | 21.13 | 21.21 | 22      | -3.01       | 18.24  | 18.12 | 18.20 |
| PCS1900<br>EGPRS (8PSK)  | Measured timeslot-averaged<br>output power (dBm) |       |       |         | calculation | Source-based time-averaged<br>output power (dBm) |       |       |
|                          | 810  | 661   | 512   |         |             | 810  | 661   | 512   |
| 1 Txslot                 | 25.57  | 25.51 | 25.72 | 26.5    | -9.03       | 16.54  | 16.48 | 16.69 |
| 2 Txslots                | 22.77  | 22.80 | 22.89 | 23      | -6.02       | 16.75  | 16.78 | 16.87 |
| 3Txslots                 | 20.88  | 20.85 | 20.94 | 21      | -4.26       | 16.62  | 16.59 | 16.68 |
| 4 Txslots                | 19.48  | 19.47 | 19.68 | 20.5    | -3.01       | 16.47  | 16.46 | 16.67 |

**NOTES:**

## 1) Division Factors

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

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

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

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

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

**According to the conducted power as above, the body measurements are performed with 2Txslots for GSM1900.**

## 11.2 WCDMA Measurement result

**Table 11.2-1: The conducted Power for WCDMA B5 (Power Level A1/B1/C1)**

| WCDMA850 | FDDV result (dBm) |            |            | Tune up |
|----------|-------------------|------------|------------|---------|
|          | 4233/4458         | 4183/4408  | 4132/4357  |         |
|          | (846.6MHz)        | (836.6MHz) | (826.4MHz) |         |
|          | 23.33             | 23.38      | 23.41      | 24      |
| HSUPA    | 20.33             | 20.32      | 20.37      | 21      |
|          | 20.32             | 20.31      | 20.38      | 21      |
|          | 21.31             | 21.29      | 21.37      | 22      |
|          | 19.85             | 19.81      | 19.84      | 20.5    |
|          | 21.27             | 21.26      | 21.31      | 22      |
| HSPA+    | 21.81             | 21.91      | 21.84      | 22.5    |
| DC-HSDPA | 22.28             | 22.27      | 22.33      | 23      |
|          | 22.21             | 22.26      | 22.32      | 23      |
|          | 21.76             | 21.79      | 21.83      | 22.5    |
|          | 21.74             | 21.75      | 21.81      | 22.5    |

**Table 11.2-2: The conducted Power for WCDMA B2 (Power Level A1/B1)**

| WCDMA1900 | FDDII result (dBm) |           |             | Tune up |
|-----------|--------------------|-----------|-------------|---------|
|           | 9538/9938          | 9400/9800 | 9262/9662   |         |
|           | (1907.6MHz)        | (1880MHz) | (1852.4MHz) |         |
|           | 23.59              | 23.63     | 23.74       | 24      |
| HSUPA     | 20.32              | 20.36     | 20.40       | 21      |
|           | 20.31              | 20.38     | 20.39       | 21      |
|           | 21.33              | 21.37     | 21.40       | 22      |
|           | 19.81              | 19.87     | 19.91       | 20.5    |
|           | 21.31              | 21.35     | 21.37       | 22      |
| HSPA+     | 21.89              | 21.96     | 21.86       | 22      |
| DC-HSDPA  | 22.34              | 22.37     | 22.38       | 22.5    |
|           | 22.32              | 22.31     | 22.39       | 22.5    |
|           | 21.83              | 21.87     | 21.88       | 22.5    |
|           | 21.81              | 21.89     | 21.86       | 22.5    |

**Table 11.2-3: The conducted Power for WCDMA B2 (Power Level C1)**

| WCDMA1900 | FDDII result (dBm) |           |             | Tune up |
|-----------|--------------------|-----------|-------------|---------|
|           | 9538/9938          | 9400/9800 | 9262/9662   |         |
|           | (1907.6MHz)        | (1880MHz) | (1852.4MHz) |         |
|           | 21.40              | 21.42     | 21.48       | 22      |
| HSUPA     | 18.99              | 18.94     | 18.96       | 19      |
|           | 18.94              | 18.96     | 18.94       | 19      |
|           | 19.87              | 19.96     | 19.94       | 20      |
|           | 18.39              | 18.45     | 18.45       | 18.5    |
|           | 19.83              | 19.88     | 19.97       | 20      |
| HSPA+     | 20.53              | 20.39     | 20.59       | 21      |
| DC-HSDPA  | 20.93              | 20.96     | 21.03       | 21.5    |
|           | 20.89              | 20.97     | 21.01       | 21.5    |
|           | 20.47              | 20.48     | 20.47       | 20.5    |
|           | 20.43              | 20.45     | 20.47       | 20.5    |

**Table 11.2-4: The conducted Power for WCDMA B4 (Power Level A1)**

| WCDMA1700 | FDDIV result (dBm) |             |             | Tune up |
|-----------|--------------------|-------------|-------------|---------|
|           | 1513/1738          | 1412/1637   | 1312/1537   |         |
|           | (1752.6MHz)        | (1732.4MHz) | (1712.4MHz) |         |
|           | 23.43              | 23.41       | 23.35       | 24      |
| HSUPA     | 20.25              | 20.26       | 20.21       | 21      |
|           | 20.29              | 20.28       | 20.23       | 21      |
|           | 21.29              | 21.26       | 21.22       | 22      |
|           | 19.74              | 19.75       | 19.69       | 20.5    |
|           | 21.24              | 21.23       | 21.19       | 22      |
| HSPA+     | 21.75              | 21.77       | 21.68       | 22      |
| DC-HSDPA  | 22.22              | 22.24       | 22.21       | 22.5    |
|           | 22.17              | 22.22       | 22.23       | 22.5    |
|           | 21.72              | 21.75       | 21.70       | 22.5    |
|           | 21.7               | 21.72       | 21.69       | 22.5    |

**Table 11.2-5: The conducted Power for WCDMA B4 (Power Level B1)**

| WCDMA1700 | FDDIV result (dBm) |             |             | Tune up |
|-----------|--------------------|-------------|-------------|---------|
|           | 1513/1738          | 1412/1637   | 1312/1537   |         |
|           | (1752.6MHz)        | (1732.4MHz) | (1712.4MHz) |         |
|           | 22.68              | 22.62       | 22.78       | 23      |
| HSUPA     | 19.93              | 19.89       | 19.90       | 20      |
|           | 19.92              | 19.93       | 19.89       | 20      |
|           | 20.9               | 20.88       | 20.88       | 21      |
|           | 19.42              | 19.40       | 19.41       | 19.5    |
|           | 20.89              | 20.87       | 20.88       | 21      |
| HSPA+     | 21.43              | 21.49       | 21.46       | 22      |
| DC-HSDPA  | 21.95              | 21.96       | 21.99       | 22      |
|           | 21.91              | 21.78       | 21.96       | 22      |
|           | 21.44              | 21.45       | 21.46       | 22      |
|           | 21.42              | 21.44       | 21.45       | 22      |

**Table 11.2-6: The conducted Power for WCDMA B4 (Power Level C1)**

| WCDMA1700 | FDDIV result (dBm) |             |             | Tune up |
|-----------|--------------------|-------------|-------------|---------|
|           | 1513/1738          | 1412/1637   | 1312/1537   |         |
|           | (1752.6MHz)        | (1732.4MHz) | (1712.4MHz) |         |
|           | 17.37              | 17.34       | 17.31       | 18      |
| HSUPA     | 15.06              | 14.94       | 14.97       | 15      |
|           | 14.95              | 14.93       | 14.98       | 15      |
|           | 15.98              | 15.94       | 15.93       | 16      |
|           | 14.45              | 14.50       | 14.46       | 14.5    |
|           | 15.91              | 15.92       | 15.99       | 16      |
| HSPA+     | 16.55              | 16.53       | 16.59       | 17      |
| DC-HSDPA  | 16.98              | 16.97       | 17.01       | 17.5    |
|           | 16.97              | 16.96       | 16.98       | 17.5    |
|           | 16.45              | 16.49       | 16.48       | 16.5    |
|           | 16.48              | 16.49       | 16.47       | 16.5    |

### 11.3 LTE Measurement result

#### Maximum Target Power for Production Unit

| Band        | Tune up (dBm)                  |   |  |
|-------------|--------------------------------|---|--|
|             | Receiver on<br>(head scenario) | Receiver off+<br>Hotspot off<br>(body scenario) | Receiver off+<br>Hotspot on<br>(body/other scenario) |
|             | Power Level A1                 | Power Level B1                                  | Power Level C1                                       |
| LTE B2      | 24.5                           | 23.5  | 23   |
| LTE B5      | 25                             | 25  | 25   |
| LTE B12     | 25                             | 25  | 25   |
| LTE B13     | 25                             | 25  | 25   |
| LTE B41-PC3 | 24                             | 24  | 21.5   |
| LTE B41-PC2 | 27                             | 26  | 23   |
| LTE B66     | 24.5                           | 22.5  | 18.5   |
| LTE B71     | 25                             | 25  | 25   |

#### Maximum Power Reduction (MPR) for LTE

| Modulation | Channel bandwidth / Transmission bandwidth configuration [RB] |     |     |      |      |      | MPR (dB) |
|------------|---|-----|-----|------|------|------|----------|
|            | 1.4   | 3   | 5   | 10   | 15   | 20   |          |
|            | MHz   | MHz | MHz | MHz  | MHz  | MHz  |          |
| QPSK       | > 5   | > 4 | > 8 | > 12 | > 16 | > 18 | 1        |
| 16 QAM     | ≤ 5   | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | 1        |
| 16 QAM     | > 5   | > 4 | > 8 | > 12 | > 16 | > 18 | 2        |
| 64 QAM     | ≤ 5   | ≤ 4 | ≤ 8 | ≤ 12 | ≤ 16 | ≤ 18 | 3        |
| 64 QAM     | > 5   | > 4 | > 8 | > 12 | > 16 | > 18 | 3        |

#### LTE Band2 (Power Level A1)

| LTE B2       |                |                |       |       |       |
|--------------|----------------|----------------|-------|-------|-------|
| BANDWIDTH    | Number of RBs  | Frequency      | QPSK  | 16QAM | 64QAM |
| 1.4MHz       | 1RB-High (5)   | 1909.3 (19193) | 23.45 | 22.81 | 21.71 |
|              |                | 1880 (18900)   | 23.36 | 22.69 | 21.60 |
|              |                | 1850.7 (18607) | 23.52 | 22.81 | 21.73 |
|              | 1RB-Middle (3) | 1909.3 (19193) | 23.54 | 22.86 | 21.71 |
|              |                | 1880 (18900)   | 23.47 | 22.85 | 21.74 |
|              |                | 1850.7 (18607) | 23.56 | 23.03 | 21.85 |
|              | 1RB-Low (0)    | 1909.3 (19193) | 23.44 | 22.72 | 21.75 |
|              |                | 1880 (18900)   | 23.37 | 22.68 | 21.56 |
|              |                | 1850.7 (18607) | 23.50 | 22.96 | 21.81 |
|              | 3RB-High (3)   | 1909.3 (19193) | 23.51 | 22.48 | 21.64 |
| 1880 (18900) |                | 23.47          | 22.41 | 21.59 |       |

|          |                 |                |       |       |       |
|----------|-----------------|----------------|-------|-------|-------|
|          | 3RB-Middle (1)  | 1850.7 (18607) | 23.64 | 22.56 | 21.74 |
|          |                 | 1909.3 (19193) | 23.56 | 22.51 | 21.68 |
|          |                 | 1880 (18900)   | 23.53 | 22.46 | 21.62 |
|          | 3RB-Low (0)     | 1850.7 (18607) | 23.65 | 22.65 | 21.76 |
|          |                 | 1909.3 (19193) | 23.52 | 22.50 | 21.65 |
|          |                 | 1880 (18900)   | 23.46 | 22.48 | 21.58 |
|          | 6RB (0)         | 1850.7 (18607) | 23.58 | 22.53 | 21.71 |
|          |                 | 1909.3 (19193) | 22.53 | 21.65 | 20.56 |
|          |                 | 1880 (18900)   | 22.40 | 21.61 | 20.50 |
| 3MHz     | 1RB-High (14)   | 1850.7 (18607) | 22.54 | 21.75 | 20.62 |
|          |                 | 1908.5 (19185) | 23.46 | 22.73 | 21.75 |
|          |                 | 1880 (18900)   | 23.41 | 22.70 | 21.60 |
|          | 1RB-Middle (7)  | 1851.5 (18615) | 23.52 | 22.93 | 21.81 |
|          |                 | 1908.5 (19185) | 23.53 | 22.98 | 21.88 |
|          |                 | 1880 (18900)   | 23.53 | 22.88 | 21.67 |
|          | 1RB-Low (0)     | 1851.5 (18615) | 23.70 | 23.09 | 21.95 |
|          |                 | 1908.5 (19185) | 23.44 | 22.88 | 21.75 |
|          |                 | 1880 (18900)   | 23.41 | 22.79 | 21.61 |
|          | 8RB-High (7)    | 1851.5 (18615) | 23.54 | 22.92 | 21.75 |
|          |                 | 1908.5 (19185) | 22.45 | 21.54 | 20.53 |
|          |                 | 1880 (18900)   | 22.36 | 21.51 | 20.48 |
|          | 8RB-Middle (4)  | 1851.5 (18615) | 22.44 | 21.59 | 20.53 |
|          |                 | 1908.5 (19185) | 22.47 | 21.57 | 20.58 |
|          |                 | 1880 (18900)   | 22.39 | 21.56 | 20.46 |
|          | 8RB-Low (0)     | 1851.5 (18615) | 22.48 | 21.62 | 20.57 |
|          |                 | 1908.5 (19185) | 22.42 | 21.51 | 20.51 |
|          |                 | 1880 (18900)   | 22.36 | 21.51 | 20.45 |
| 15RB (0) | 1851.5 (18615)  | 22.49          | 21.62 | 20.58 |       |
|          | 1908.5 (19185)  | 22.44          | 21.51 | 20.50 |       |
|          | 1880 (18900)    | 22.34          | 21.46 | 20.41 |       |
| 5MHz     | 1RB-High (24)   | 1851.5 (18615) | 22.43 | 21.54 | 20.47 |
|          |                 | 1907.5 (19175) | 23.40 | 22.76 | 21.61 |
|          |                 | 1880 (18900)   | 23.34 | 22.77 | 21.57 |
|          | 1RB-Middle (12) | 1852.5 (18625) | 23.44 | 22.89 | 21.73 |
|          |                 | 1907.5 (19175) | 23.52 | 22.91 | 21.79 |
|          |                 | 1880 (18900)   | 23.49 | 22.85 | 21.69 |
|          | 1RB-Low (0)     | 1852.5 (18625) | 23.60 | 23.03 | 21.88 |
|          |                 | 1907.5 (19175) | 23.38 | 22.70 | 21.58 |
|          |                 | 1880 (18900)   | 23.36 | 22.72 | 21.60 |
|          |                 | 1852.5 (18625) | 23.50 | 22.97 | 21.77 |



|       |                  |                |       |       |       |
|-------|------------------|----------------|-------|-------|-------|
|       | 12RB-High (13)   | 1907.5 (19175) | 22.42 | 21.52 | 20.50 |
|       |                  | 1880 (18900)   | 22.38 | 21.46 | 20.46 |
|       |                  | 1852.5 (18625) | 22.47 | 21.52 | 20.52 |
|       | 12RB-Middle (6)  | 1907.5 (19175) | 22.47 | 21.54 | 20.52 |
|       |                  | 1880 (18900)   | 22.45 | 21.49 | 20.49 |
|       |                  | 1852.5 (18625) | 22.51 | 21.53 | 20.56 |
|       | 12RB-Low (0)     | 1907.5 (19175) | 22.44 | 21.51 | 20.47 |
|       |                  | 1880 (18900)   | 22.41 | 21.49 | 20.50 |
|       |                  | 1852.5 (18625) | 22.45 | 21.50 | 20.51 |
|       | 25RB (0)         | 1907.5 (19175) | 22.42 | 21.51 | 20.46 |
|       |                  | 1880 (18900)   | 22.41 | 21.47 | 20.48 |
|       |                  | 1852.5 (18625) | 22.49 | 21.53 | 20.54 |
| 10MHz | 1RB-High (49)    | 1905 (19150)   | 23.45 | 22.85 | 21.63 |
|       |                  | 1880 (18900)   | 23.34 | 22.72 | 21.57 |
|       |                  | 1855 (18650)   | 23.39 | 22.79 | 21.65 |
|       | 1RB-Middle (24)  | 1905 (19150)   | 23.50 | 22.85 | 21.72 |
|       |                  | 1880 (18900)   | 23.49 | 22.85 | 21.68 |
|       |                  | 1855 (18650)   | 23.61 | 22.99 | 21.78 |
|       | 1RB-Low (0)      | 1905 (19150)   | 23.41 | 22.76 | 21.60 |
|       |                  | 1880 (18900)   | 23.37 | 22.82 | 21.61 |
|       |                  | 1855 (18650)   | 23.52 | 23.01 | 21.81 |
|       | 25RB-High (25)   | 1905 (19150)   | 22.46 | 21.52 | 20.49 |
|       |                  | 1880 (18900)   | 22.41 | 21.50 | 20.48 |
|       |                  | 1855 (18650)   | 22.43 | 21.53 | 20.53 |
|       | 25RB-Middle (12) | 1905 (19150)   | 22.46 | 21.52 | 20.48 |
|       |                  | 1880 (18900)   | 22.43 | 21.49 | 20.47 |
|       |                  | 1855 (18650)   | 22.44 | 21.54 | 20.50 |
|       | 25RB-Low (0)     | 1905 (19150)   | 22.48 | 21.57 | 20.50 |
|       |                  | 1880 (18900)   | 22.46 | 21.53 | 20.51 |
|       |                  | 1855 (18650)   | 22.48 | 21.59 | 20.55 |
|       | 50RB (0)         | 1905 (19150)   | 22.46 | 21.54 | 20.47 |
|       |                  | 1880 (18900)   | 22.42 | 21.48 | 20.48 |
|       |                  | 1855 (18650)   | 22.47 | 21.52 | 20.50 |
| 15MHz | 1RB-High (74)    | 1902.5 (19125) | 23.45 | 22.78 | 21.70 |
|       |                  | 1880 (18900)   | 23.34 | 22.66 | 21.59 |
|       |                  | 1857.5 (18675) | 23.37 | 22.63 | 21.59 |
|       | 1RB-Middle (37)  | 1902.5 (19125) | 23.41 | 22.75 | 21.66 |
|       |                  | 1880 (18900)   | 23.41 | 22.77 | 21.66 |
|       |                  | 1857.5 (18675) | 23.45 | 22.84 | 21.71 |
|       | 1RB-Low (0)      | 1902.5 (19125) | 23.39 | 22.75 | 21.57 |

|       |                  |                |       |       |       |
|-------|------------------|----------------|-------|-------|-------|
|       |                  | 1880 (18900)   | 23.40 | 22.72 | 21.63 |
|       |                  | 1857.5 (18675) | 23.54 | 22.98 | 21.83 |
|       |                  | 1902.5 (19125) | 22.47 | 21.51 | 20.48 |
|       | 36RB-High (38)   | 1880 (18900)   | 22.42 | 21.44 | 20.46 |
|       |                  | 1857.5 (18675) | 22.46 | 21.47 | 20.50 |
|       |                  | 1902.5 (19125) | 22.49 | 21.51 | 20.51 |
|       | 36RB-Middle (19) | 1880 (18900)   | 22.44 | 21.46 | 20.48 |
|       |                  | 1857.5 (18675) | 22.48 | 21.50 | 20.52 |
|       |                  | 1902.5 (19125) | 22.53 | 21.56 | 20.53 |
|       | 36RB-Low (0)     | 1880 (18900)   | 22.44 | 21.48 | 20.50 |
|       |                  | 1857.5 (18675) | 22.50 | 21.54 | 20.55 |
|       |                  | 1902.5 (19125) | 22.48 | 21.53 | 20.49 |
|       | 75RB (0)         | 1880 (18900)   | 22.43 | 21.50 | 20.48 |
|       |                  | 1857.5 (18675) | 22.45 | 21.49 | 20.48 |
|       |                  | 1900 (19100)   | 23.46 | 22.85 | 21.67 |
| 20MHz | 1RB-High (99)    | 1880 (18900)   | 23.36 | 22.69 | 21.65 |
|       |                  | 1860 (18700)   | 23.38 | 22.77 | 21.59 |
|       |                  | 1900 (19100)   | 23.88 | 22.79 | 21.80 |
|       | 1RB-Middle (50)  | 1880 (18900)   | 23.76 | 22.91 | 21.67 |
|       |                  | 1860 (18700)   | 23.85 | 22.91 | 21.81 |
|       |                  | 1900 (19100)   | 23.41 | 22.81 | 21.66 |
|       | 1RB-Low (0)      | 1880 (18900)   | 23.42 | 22.75 | 21.60 |
|       |                  | 1860 (18700)   | 23.54 | 23.02 | 21.82 |
|       |                  | 1900 (19100)   | 22.41 | 21.47 | 20.44 |
|       | 50RB-High (50)   | 1880 (18900)   | 22.37 | 21.45 | 20.43 |
|       |                  | 1860 (18700)   | 22.38 | 21.44 | 20.41 |
|       |                  | 1900 (19100)   | 22.55 | 21.59 | 20.52 |
|       | 50RB-Middle (25) | 1880 (18900)   | 22.45 | 21.50 | 20.49 |
|       |                  | 1860 (18700)   | 22.50 | 21.53 | 20.54 |
|       |                  | 1900 (19100)   | 22.52 | 21.56 | 20.52 |
|       | 50RB-Low (0)     | 1880 (18900)   | 22.46 | 21.51 | 20.52 |
|       |                  | 1860 (18700)   | 22.42 | 21.50 | 20.49 |
|       |                  | 1900 (19100)   | 22.49 | 21.54 | 20.47 |
|       | 100RB (0)        | 1880 (18900)   | 22.41 | 21.46 | 20.46 |
|       |                  | 1860 (18700)   | 22.44 | 21.47 | 20.44 |

**LTE Band2 (Power Level B1)**

| LTE B2         |                |                |                |       |       |       |
|----------------|----------------|----------------|----------------|-------|-------|-------|
| BANDWIDTH      | Number of RBs  | Frequency      | QPSK           | 16QAM | 64QAM |       |
| 1.4MHz         | 1RB-High (5)   | 1909.3 (19193) | 22.42          | 22.87 | 21.65 |       |
|                |                | 1880 (18900)   | 22.20          | 22.63 | 21.56 |       |
|                |                | 1850.7 (18607) | 22.24          | 22.70 | 21.65 |       |
|                | 1RB-Middle (3) | 1909.3 (19193) | 22.69          | 22.71 | 21.69 |       |
|                |                | 1880 (18900)   | 22.56          | 22.98 | 21.64 |       |
|                |                | 1850.7 (18607) | 22.57          | 22.98 | 21.72 |       |
|                | 1RB-Low (0)    | 1909.3 (19193) | 22.32          | 22.54 | 21.71 |       |
|                |                | 1880 (18900)   | 22.40          | 22.62 | 21.58 |       |
|                |                | 1850.7 (18607) | 22.38          | 22.94 | 21.67 |       |
|                | 3RB-High (3)   | 1909.3 (19193) | 22.43          | 22.91 | 21.82 |       |
|                |                | 1880 (18900)   | 22.32          | 22.67 | 21.63 |       |
|                |                | 1850.7 (18607) | 22.17          | 22.82 | 21.53 |       |
|                | 3RB-Middle (1) | 1909.3 (19193) | 22.61          | 22.74 | 21.82 |       |
|                |                | 1880 (18900)   | 22.48          | 22.95 | 21.77 |       |
|                |                | 1850.7 (18607) | 22.62          | 22.87 | 21.74 |       |
|                | 3RB-Low (0)    | 1909.3 (19193) | 22.40          | 22.54 | 21.56 |       |
|                |                | 1880 (18900)   | 22.30          | 22.58 | 21.54 |       |
|                |                | 1850.7 (18607) | 22.46          | 22.85 | 21.78 |       |
|                | 6RB (0)        | 1909.3 (19193) | 22.36          | 21.38 | 20.42 |       |
|                |                | 1880 (18900)   | 22.42          | 21.50 | 20.45 |       |
|                |                | 1850.7 (18607) | 22.29          | 21.49 | 20.49 |       |
|                | 3MHz           | 1RB-High (14)  | 1908.5 (19185) | 22.49 | 22.77 | 21.74 |
|                |                |                | 1880 (18900)   | 22.30 | 22.63 | 21.53 |
|                |                |                | 1851.5 (18615) | 22.33 | 22.73 | 21.65 |
|                |                | 1RB-Middle (7) | 1908.5 (19185) | 22.68 | 22.67 | 21.77 |
|                |                |                | 1880 (18900)   | 22.58 | 22.79 | 21.75 |
|                |                |                | 1851.5 (18615) | 22.63 | 22.83 | 21.87 |
| 1RB-Low (0)    |                | 1908.5 (19185) | 22.25          | 22.64 | 21.52 |       |
|                |                | 1880 (18900)   | 22.34          | 22.76 | 21.46 |       |
|                |                | 1851.5 (18615) | 22.38          | 22.80 | 21.78 |       |
| 8RB-High (7)   |                | 1908.5 (19185) | 22.30          | 21.39 | 20.41 |       |
|                |                | 1880 (18900)   | 22.36          | 21.43 | 20.31 |       |
|                |                | 1851.5 (18615) | 22.43          | 21.46 | 20.46 |       |
| 8RB-Middle (4) |                | 1908.5 (19185) | 22.51          | 21.62 | 20.50 |       |
|                |                | 1880 (18900)   | 22.45          | 21.51 | 20.49 |       |
|                |                | 1851.5 (18615) | 22.48          | 21.58 | 20.51 |       |

|                  |                 |                |              |       |       |       |
|------------------|-----------------|----------------|--------------|-------|-------|-------|
|                  | 8RB-Low (0)     | 1908.5 (19185) | 22.45        | 21.58 | 20.55 |       |
|                  |                 | 1880 (18900)   | 22.38        | 21.49 | 20.43 |       |
|                  |                 | 1851.5 (18615) | 22.45        | 21.54 | 20.48 |       |
|                  | 15RB (0)        | 1908.5 (19185) | 22.40        | 21.40 | 20.42 |       |
|                  |                 | 1880 (18900)   | 22.36        | 21.40 | 20.44 |       |
|                  |                 | 1851.5 (18615) | 22.48        | 21.46 | 20.39 |       |
| 5MHz             | 1RB-High (24)   | 1907.5 (19175) | 22.39        | 22.87 | 21.77 |       |
|                  |                 | 1880 (18900)   | 22.36        | 22.66 | 21.45 |       |
|                  |                 | 1852.5 (18625) | 22.37        | 22.80 | 21.48 |       |
|                  | 1RB-Middle (12) | 1907.5 (19175) | 22.66        | 22.74 | 21.67 |       |
|                  |                 | 1880 (18900)   | 22.48        | 22.81 | 21.64 |       |
|                  |                 | 1852.5 (18625) | 22.56        | 22.82 | 21.82 |       |
|                  | 1RB-Low (0)     | 1907.5 (19175) | 22.36        | 22.65 | 21.53 |       |
|                  |                 | 1880 (18900)   | 22.26        | 22.61 | 21.56 |       |
|                  |                 | 1852.5 (18625) | 22.47        | 22.85 | 21.72 |       |
|                  | 12RB-High (13)  | 1907.5 (19175) | 22.41        | 21.55 | 20.35 |       |
|                  |                 | 1880 (18900)   | 22.27        | 21.49 | 20.47 |       |
|                  |                 | 1852.5 (18625) | 22.42        | 21.46 | 20.35 |       |
|                  | 12RB-Middle (6) | 1907.5 (19175) | 22.53        | 21.51 | 20.47 |       |
|                  |                 | 1880 (18900)   | 22.47        | 21.45 | 20.48 |       |
|                  |                 | 1852.5 (18625) | 22.50        | 21.46 | 20.46 |       |
|                  | 12RB-Low (0)    | 1907.5 (19175) | 22.37        | 21.47 | 20.36 |       |
|                  |                 | 1880 (18900)   | 22.37        | 21.42 | 20.46 |       |
|                  |                 | 1852.5 (18625) | 22.38        | 21.42 | 20.46 |       |
|                  | 25RB (0)        | 1907.5 (19175) | 22.45        | 21.50 | 20.47 |       |
|                  |                 | 1880 (18900)   | 22.34        | 21.45 | 20.42 |       |
|                  |                 | 1852.5 (18625) | 22.33        | 21.54 | 20.44 |       |
|                  | 10MHz           | 1RB-High (49)  | 1905 (19150) | 22.44 | 22.86 | 21.76 |
|                  |                 |                | 1880 (18900) | 22.21 | 22.73 | 21.47 |
|                  |                 |                | 1855 (18650) | 22.37 | 22.82 | 21.49 |
| 1RB-Middle (24)  |                 | 1905 (19150)   | 22.66        | 22.64 | 21.82 |       |
|                  |                 | 1880 (18900)   | 22.61        | 22.97 | 21.73 |       |
|                  |                 | 1855 (18650)   | 22.53        | 22.98 | 21.72 |       |
| 1RB-Low (0)      |                 | 1905 (19150)   | 22.36        | 22.67 | 21.56 |       |
|                  |                 | 1880 (18900)   | 22.39        | 22.74 | 21.48 |       |
|                  |                 | 1855 (18650)   | 22.34        | 22.86 | 21.79 |       |
| 25RB-High (25)   |                 | 1905 (19150)   | 22.27        | 21.55 | 20.36 |       |
|                  |                 | 1880 (18900)   | 22.45        | 21.36 | 20.36 |       |
|                  |                 | 1855 (18650)   | 22.38        | 21.53 | 20.47 |       |
| 25RB-Middle (12) | 1905 (19150)    | 22.62          | 21.55        | 20.56 |       |       |

|                |                  |                 |              |       |       |       |
|----------------|------------------|-----------------|--------------|-------|-------|-------|
|                |                  | 1880 (18900)    | 22.56        | 21.44 | 20.51 |       |
|                |                  | 1855 (18650)    | 22.55        | 21.46 | 20.53 |       |
|                |                  | 1905 (19150)    | 22.42        | 21.46 | 20.44 |       |
|                | 25RB-Low (0)     | 1880 (18900)    | 22.49        | 21.57 | 20.50 |       |
|                |                  | 1855 (18650)    | 22.39        | 21.51 | 20.46 |       |
|                |                  | 1905 (19150)    | 22.44        | 21.45 | 20.43 |       |
|                | 50RB (0)         | 1880 (18900)    | 22.38        | 21.48 | 20.49 |       |
|                |                  | 1855 (18650)    | 22.28        | 21.39 | 20.37 |       |
|                |                  | 1902.5 (19125)  | 22.30        | 22.71 | 21.69 |       |
| 15MHz          | 1RB-High (74)    | 1880 (18900)    | 22.25        | 22.58 | 21.44 |       |
|                |                  | 1857.5 (18675)  | 22.30        | 22.86 | 21.55 |       |
|                |                  | 1902.5 (19125)  | 22.63        | 22.78 | 21.66 |       |
|                | 1RB-Middle (37)  | 1880 (18900)    | 22.50        | 22.93 | 21.81 |       |
|                |                  | 1857.5 (18675)  | 22.53        | 23.00 | 21.75 |       |
|                |                  | 1902.5 (19125)  | 22.33        | 22.67 | 21.65 |       |
|                | 1RB-Low (0)      | 1880 (18900)    | 22.30        | 22.71 | 21.54 |       |
|                |                  | 1857.5 (18675)  | 22.34        | 22.82 | 21.74 |       |
|                |                  | 1902.5 (19125)  | 22.36        | 21.45 | 20.31 |       |
|                | 36RB-High (38)   | 1880 (18900)    | 22.33        | 21.38 | 20.48 |       |
|                |                  | 1857.5 (18675)  | 22.32        | 21.44 | 20.32 |       |
|                |                  | 1902.5 (19125)  | 22.58        | 21.57 | 20.47 |       |
|                | 36RB-Middle (19) | 1880 (18900)    | 22.65        | 21.42 | 20.36 |       |
|                |                  | 1857.5 (18675)  | 22.67        | 21.53 | 20.42 |       |
|                |                  | 1902.5 (19125)  | 22.36        | 21.41 | 20.48 |       |
|                | 36RB-Low (0)     | 1880 (18900)    | 22.43        | 21.53 | 20.55 |       |
|                |                  | 1857.5 (18675)  | 22.35        | 21.41 | 20.49 |       |
|                |                  | 1902.5 (19125)  | 22.39        | 21.56 | 20.34 |       |
|                | 75RB (0)         | 1880 (18900)    | 22.40        | 21.39 | 20.48 |       |
|                |                  | 1857.5 (18675)  | 22.35        | 21.40 | 20.52 |       |
|                |                  | 1900 (19100)    | 22.49        | 22.91 | 21.85 |       |
|                | 20MHz            | 1RB-High (99)   | 1880 (18900) | 22.39 | 22.78 | 21.64 |
|                |                  |                 | 1860 (18700) | 22.37 | 22.86 | 21.67 |
|                |                  |                 | 1900 (19100) | 22.69 | 22.83 | 21.82 |
|                |                  | 1RB-Middle (50) | 1880 (18900) | 22.67 | 22.98 | 21.81 |
|                |                  |                 | 1860 (18700) | 22.66 | 23.01 | 21.87 |
|                |                  |                 | 1900 (19100) | 22.43 | 22.72 | 21.71 |
| 1RB-Low (0)    |                  | 1880 (18900)    | 22.44        | 22.77 | 21.65 |       |
|                |                  | 1860 (18700)    | 22.52        | 22.96 | 21.86 |       |
|                |                  | 1900 (19100)    | 22.47        | 21.56 | 20.50 |       |
| 50RB-High (50) |                  | 1880 (18900)    | 22.45        | 21.53 | 20.49 |       |

|  |                  |              |              |       |       |
|--|------------------|--------------|--------------|-------|-------|
|  | 50RB-Middle (25) | 1860 (18700) | 22.47        | 21.56 | 20.50 |
|  |                  | 1900 (19100) | 22.70        | 21.62 | 20.58 |
|  |                  | 1880 (18900) | 22.65        | 21.58 | 20.54 |
|  | 50RB-Low (0)     | 1860 (18700) | 22.68        | 21.61 | 20.59 |
|  |                  | 1900 (19100) | 22.56        | 21.61 | 20.56 |
|  |                  | 1880 (18900) | 22.51        | 21.62 | 20.58 |
|  | 100RB (0)        | 1860 (18700) | 22.49        | 21.57 | 20.55 |
|  |                  | 1900 (19100) | 22.52        | 21.57 | 20.54 |
|  |                  | 1880 (18900) | 22.50        | 21.57 | 20.54 |
|  |                  |              | 1860 (18700) | 22.48 | 21.58 |

**LTE Band2 (Power Level C1)**

| LTE B2    |                |                |       |       |       |
|-----------|----------------|----------------|-------|-------|-------|
| BANDWIDTH | Number of RBs  | Frequency      | QPSK  | 16QAM | 64QAM |
| 1.4MHz    | 1RB-High (5)   | 1909.3 (19193) | 21.20 | 21.47 | 21.27 |
|           |                | 1880 (18900)   | 21.04 | 21.22 | 21.24 |
|           |                | 1850.7 (18607) | 21.03 | 21.37 | 21.16 |
|           | 1RB-Middle (3) | 1909.3 (19193) | 21.20 | 21.57 | 21.43 |
|           |                | 1880 (18900)   | 21.26 | 21.40 | 21.37 |
|           |                | 1850.7 (18607) | 21.23 | 21.61 | 21.38 |
|           | 1RB-Low (0)    | 1909.3 (19193) | 21.18 | 21.32 | 21.24 |
|           |                | 1880 (18900)   | 21.06 | 21.47 | 21.25 |
|           |                | 1850.7 (18607) | 21.16 | 21.56 | 21.37 |
|           | 3RB-High (3)   | 1909.3 (19193) | 21.10 | 21.09 | 20.58 |
|           |                | 1880 (18900)   | 21.13 | 20.96 | 20.60 |
|           |                | 1850.7 (18607) | 21.08 | 20.98 | 20.51 |
|           | 3RB-Middle (1) | 1909.3 (19193) | 21.29 | 21.10 | 20.56 |
|           |                | 1880 (18900)   | 21.13 | 21.17 | 20.59 |
|           |                | 1850.7 (18607) | 21.21 | 21.05 | 20.53 |
|           | 3RB-Low (0)    | 1909.3 (19193) | 21.10 | 21.19 | 20.67 |
|           |                | 1880 (18900)   | 21.15 | 21.20 | 20.59 |
|           |                | 1850.7 (18607) | 21.05 | 21.16 | 20.51 |
|           | 6RB (0)        | 1909.3 (19193) | 21.21 | 21.12 | 20.65 |
|           |                | 1880 (18900)   | 21.09 | 21.12 | 20.58 |
|           |                | 1850.7 (18607) | 21.27 | 21.09 | 20.54 |
| 3MHz      | 1RB-High (14)  | 1908.5 (19185) | 21.04 | 21.48 | 21.40 |
|           |                | 1880 (18900)   | 20.90 | 21.39 | 21.09 |
|           |                | 1851.5 (18615) | 20.95 | 21.31 | 21.25 |
|           | 1RB-Middle (7) | 1908.5 (19185) | 21.25 | 21.47 | 21.44 |

|              |                 |                |       |       |       |
|--------------|-----------------|----------------|-------|-------|-------|
|              | 1RB-Low (0)     | 1880 (18900)   | 21.19 | 21.42 | 21.48 |
|              |                 | 1851.5 (18615) | 21.13 | 21.54 | 21.52 |
|              |                 | 1908.5 (19185) | 21.16 | 21.35 | 21.20 |
|              | 8RB-High (7)    | 1880 (18900)   | 21.04 | 21.36 | 21.19 |
|              |                 | 1851.5 (18615) | 21.26 | 21.64 | 21.27 |
|              |                 | 1908.5 (19185) | 21.19 | 21.10 | 20.60 |
|              | 8RB-Middle (4)  | 1880 (18900)   | 21.15 | 21.02 | 20.54 |
|              |                 | 1851.5 (18615) | 21.03 | 21.01 | 20.54 |
|              |                 | 1908.5 (19185) | 21.21 | 21.11 | 20.57 |
|              | 8RB-Low (0)     | 1880 (18900)   | 21.18 | 21.11 | 20.68 |
|              |                 | 1851.5 (18615) | 21.19 | 21.23 | 20.67 |
|              |                 | 1908.5 (19185) | 21.26 | 21.22 | 20.66 |
|              | 15RB (0)        | 1880 (18900)   | 21.23 | 21.09 | 20.60 |
|              |                 | 1851.5 (18615) | 21.15 | 21.09 | 20.63 |
|              |                 | 1908.5 (19185) | 21.11 | 21.02 | 20.68 |
| 5MHz         | 1RB-High (24)   | 1880 (18900)   | 21.04 | 21.04 | 20.58 |
|              |                 | 1851.5 (18615) | 21.21 | 21.03 | 20.54 |
|              |                 | 1907.5 (19175) | 21.14 | 21.38 | 21.25 |
|              | 1RB-Middle (12) | 1880 (18900)   | 20.91 | 21.36 | 21.11 |
|              |                 | 1852.5 (18625) | 21.09 | 21.38 | 21.31 |
|              |                 | 1907.5 (19175) | 21.24 | 21.48 | 21.29 |
|              | 1RB-Low (0)     | 1880 (18900)   | 21.17 | 21.48 | 21.45 |
|              |                 | 1852.5 (18625) | 21.21 | 21.63 | 21.52 |
|              |                 | 1907.5 (19175) | 21.11 | 21.42 | 21.32 |
|              | 12RB-High (13)  | 1880 (18900)   | 21.02 | 21.39 | 21.34 |
|              |                 | 1852.5 (18625) | 21.19 | 21.50 | 21.44 |
|              |                 | 1907.5 (19175) | 21.19 | 21.14 | 20.46 |
|              | 12RB-Middle (6) | 1880 (18900)   | 21.12 | 21.03 | 20.52 |
|              |                 | 1852.5 (18625) | 21.04 | 21.00 | 20.61 |
|              |                 | 1907.5 (19175) | 21.18 | 21.26 | 20.57 |
| 12RB-Low (0) | 1880 (18900)    | 21.11          | 21.18 | 20.56 |       |
|              | 1852.5 (18625)  | 21.21          | 21.09 | 20.53 |       |
|              | 1907.5 (19175)  | 21.17          | 21.11 | 20.60 |       |
| 25RB (0)     | 1880 (18900)    | 21.06          | 21.13 | 20.53 |       |
|              | 1852.5 (18625)  | 21.06          | 21.03 | 20.54 |       |
|              | 1907.5 (19175)  | 21.18          | 21.17 | 20.69 |       |
| 10MHz        | 1RB-High (49)   | 1880 (18900)   | 21.05 | 21.05 | 20.62 |
|              |                 | 1852.5 (18625) | 21.24 | 20.99 | 20.46 |
|              |                 | 1905 (19150)   | 21.05 | 21.43 | 21.30 |
|              |                 | 1880 (18900)   | 20.99 | 21.26 | 21.26 |

|       |                  |                |       |       |       |
|-------|------------------|----------------|-------|-------|-------|
|       |                  | 1855 (18650)   | 21.09 | 21.40 | 21.28 |
|       | 1RB-Middle (24)  | 1905 (19150)   | 21.28 | 21.46 | 21.44 |
|       |                  | 1880 (18900)   | 21.13 | 21.43 | 21.36 |
|       |                  | 1855 (18650)   | 21.18 | 21.61 | 21.42 |
|       | 1RB-Low (0)      | 1905 (19150)   | 21.13 | 21.36 | 21.24 |
|       |                  | 1880 (18900)   | 21.00 | 21.52 | 21.38 |
|       |                  | 1855 (18650)   | 21.19 | 21.59 | 21.36 |
|       | 25RB-High (25)   | 1905 (19150)   | 21.06 | 20.99 | 20.45 |
|       |                  | 1880 (18900)   | 21.08 | 20.99 | 20.60 |
|       |                  | 1855 (18650)   | 20.97 | 21.14 | 20.48 |
|       | 25RB-Middle (12) | 1905 (19150)   | 21.28 | 21.16 | 20.54 |
|       |                  | 1880 (18900)   | 21.17 | 21.19 | 20.57 |
|       |                  | 1855 (18650)   | 21.08 | 21.18 | 20.64 |
|       | 25RB-Low (0)     | 1905 (19150)   | 21.10 | 21.18 | 20.62 |
|       |                  | 1880 (18900)   | 21.24 | 21.12 | 20.60 |
|       |                  | 1855 (18650)   | 21.22 | 21.08 | 20.62 |
|       | 50RB (0)         | 1905 (19150)   | 21.10 | 21.14 | 20.60 |
|       |                  | 1880 (18900)   | 21.20 | 21.11 | 20.46 |
|       |                  | 1855 (18650)   | 21.28 | 21.12 | 20.53 |
| 15MHz | 1RB-High (74)    | 1902.5 (19125) | 21.10 | 21.51 | 21.26 |
|       |                  | 1880 (18900)   | 21.02 | 21.37 | 21.11 |
|       |                  | 1857.5 (18675) | 21.00 | 21.48 | 21.14 |
|       | 1RB-Middle (37)  | 1902.5 (19125) | 21.16 | 21.43 | 21.39 |
|       |                  | 1880 (18900)   | 21.10 | 21.38 | 21.31 |
|       |                  | 1857.5 (18675) | 21.15 | 21.49 | 21.53 |
|       | 1RB-Low (0)      | 1902.5 (19125) | 21.01 | 21.32 | 21.33 |
|       |                  | 1880 (18900)   | 21.11 | 21.44 | 21.30 |
|       |                  | 1857.5 (18675) | 21.27 | 21.51 | 21.25 |
|       | 36RB-High (38)   | 1902.5 (19125) | 21.12 | 21.08 | 20.52 |
|       |                  | 1880 (18900)   | 21.06 | 21.15 | 20.51 |
|       |                  | 1857.5 (18675) | 21.13 | 21.02 | 20.46 |
|       | 36RB-Middle (19) | 1902.5 (19125) | 21.15 | 21.14 | 20.59 |
|       |                  | 1880 (18900)   | 21.17 | 21.12 | 20.66 |
|       |                  | 1857.5 (18675) | 21.12 | 21.11 | 20.58 |
|       | 36RB-Low (0)     | 1902.5 (19125) | 21.21 | 21.16 | 20.70 |
|       |                  | 1880 (18900)   | 21.23 | 21.16 | 20.69 |
|       |                  | 1857.5 (18675) | 21.03 | 21.18 | 20.54 |
|       | 75RB (0)         | 1902.5 (19125) | 21.06 | 21.05 | 20.59 |
|       |                  | 1880 (18900)   | 21.10 | 21.13 | 20.59 |
|       |                  | 1857.5 (18675) | 21.12 | 20.96 | 20.57 |



|       |                  |              |       |       |       |
|-------|------------------|--------------|-------|-------|-------|
| 20MHz | 1RB-High (99)    | 1900 (19100) | 21.18 | 21.53 | 21.40 |
|       |                  | 1880 (18900) | 21.03 | 21.34 | 21.24 |
|       |                  | 1860 (18700) | 21.07 | 21.43 | 21.29 |
|       | 1RB-Middle (50)  | 1900 (19100) | 21.30 | 21.52 | 21.42 |
|       |                  | 1880 (18900) | 21.21 | 21.50 | 21.44 |
|       |                  | 1860 (18700) | 21.25 | 21.60 | 21.49 |
|       | 1RB-Low (0)      | 1900 (19100) | 21.13 | 21.42 | 21.33 |
|       |                  | 1880 (18900) | 21.11 | 21.49 | 21.33 |
|       |                  | 1860 (18700) | 21.25 | 21.61 | 21.39 |
|       | 50RB-High (50)   | 1900 (19100) | 21.15 | 21.12 | 20.57 |
|       |                  | 1880 (18900) | 21.12 | 21.10 | 20.57 |
|       |                  | 1860 (18700) | 21.11 | 21.09 | 20.56 |
|       | 50RB-Middle (25) | 1900 (19100) | 21.29 | 21.22 | 20.65 |
|       |                  | 1880 (18900) | 21.18 | 21.19 | 20.68 |
|       |                  | 1860 (18700) | 21.23 | 21.20 | 20.66 |
|       | 50RB-Low (0)     | 1900 (19100) | 21.23 | 21.20 | 20.67 |
|       |                  | 1880 (18900) | 21.20 | 21.21 | 20.65 |
|       |                  | 1860 (18700) | 21.17 | 21.17 | 20.63 |
|       | 100RB (0)        | 1900 (19100) | 21.21 | 21.17 | 20.65 |
|       |                  | 1880 (18900) | 21.16 | 21.14 | 20.59 |
|       |                  | 1860 (18700) | 21.23 | 21.09 | 20.60 |

**LTE Band5 (Power Level A1/B1/C1)**

| LTE B5    |                |               |       |       |       |
|-----------|----------------|---------------|-------|-------|-------|
| BANDWIDTH | Number of RBs  | Frequency     | QPSK  | 16QAM | 64QAM |
| 1.4MHz    | 1RB-High (5)   | 848.3 (20643) | 23.83 | 23.02 | 21.94 |
|           |                | 836.5 (20525) | 23.79 | 23.01 | 21.93 |
|           |                | 824.7 (20407) | 23.79 | 22.90 | 21.95 |
|           | 1RB-Middle (3) | 848.3 (20643) | 23.86 | 23.11 | 22.06 |
|           |                | 836.5 (20525) | 23.91 | 23.11 | 21.98 |
|           |                | 824.7 (20407) | 23.85 | 22.90 | 21.92 |
|           | 1RB-Low (0)    | 848.3 (20643) | 23.84 | 23.07 | 22.00 |
|           |                | 836.5 (20525) | 23.80 | 22.97 | 21.99 |
|           |                | 824.7 (20407) | 23.75 | 22.94 | 21.90 |
|           | 3RB-High (3)   | 848.3 (20643) | 23.92 | 22.84 | 21.98 |
|           |                | 836.5 (20525) | 23.88 | 22.83 | 21.97 |
|           |                | 824.7 (20407) | 23.85 | 22.85 | 21.96 |
|           | 3RB-Middle (1) | 848.3 (20643) | 23.97 | 22.86 | 22.06 |
|           |                | 836.5 (20525) | 23.88 | 22.85 | 22.05 |

|                 |                |               |               |       |       |       |
|-----------------|----------------|---------------|---------------|-------|-------|-------|
|                 | 3RB-Low (0)    | 824.7 (20407) | 23.91         | 22.85 | 22.00 |       |
|                 |                | 848.3 (20643) | 23.91         | 22.91 | 22.00 |       |
|                 |                | 836.5 (20525) | 23.88         | 22.79 | 21.99 |       |
|                 | 6RB (0)        | 824.7 (20407) | 23.86         | 22.85 | 21.95 |       |
|                 |                | 848.3 (20643) | 22.88         | 22.03 | 20.85 |       |
|                 |                | 836.5 (20525) | 22.85         | 22.04 | 20.87 |       |
| 3MHz            | 1RB-High (14)  | 824.7 (20407) | 22.85         | 21.99 | 20.83 |       |
|                 |                | 847.5 (20635) | 23.93         | 23.11 | 22.03 |       |
|                 |                | 836.5 (20525) | 23.87         | 23.08 | 21.99 |       |
|                 | 1RB-Middle (7) | 825.5 (20415) | 23.86         | 23.01 | 21.95 |       |
|                 |                | 847.5 (20635) | 24.00         | 23.23 | 22.18 |       |
|                 |                | 836.5 (20525) | 23.98         | 23.29 | 22.13 |       |
|                 | 1RB-Low (0)    | 825.5 (20415) | 23.91         | 23.12 | 22.08 |       |
|                 |                | 847.5 (20635) | 23.91         | 23.08 | 21.99 |       |
|                 |                | 836.5 (20525) | 23.89         | 23.07 | 22.00 |       |
|                 | 8RB-High (7)   | 825.5 (20415) | 23.88         | 22.97 | 21.95 |       |
|                 |                | 847.5 (20635) | 22.90         | 22.01 | 20.92 |       |
|                 |                | 836.5 (20525) | 22.85         | 22.00 | 20.86 |       |
|                 | 8RB-Middle (4) | 825.5 (20415) | 22.82         | 21.94 | 20.82 |       |
|                 |                | 847.5 (20635) | 22.93         | 22.02 | 20.93 |       |
|                 |                | 836.5 (20525) | 22.88         | 22.01 | 20.88 |       |
|                 | 8RB-Low (0)    | 825.5 (20415) | 22.87         | 21.98 | 20.89 |       |
|                 |                | 847.5 (20635) | 22.91         | 22.00 | 20.94 |       |
|                 |                | 836.5 (20525) | 22.88         | 21.97 | 20.89 |       |
|                 | 15RB (0)       | 825.5 (20415) | 22.85         | 21.93 | 20.80 |       |
|                 |                | 847.5 (20635) | 22.90         | 21.95 | 20.87 |       |
|                 |                | 836.5 (20525) | 22.87         | 21.92 | 20.87 |       |
|                 | 5MHz           | 1RB-High (24) | 825.5 (20415) | 22.83 | 21.88 | 20.80 |
|                 |                |               | 846.5 (20625) | 23.97 | 23.10 | 22.07 |
|                 |                |               | 836.5 (20525) | 23.95 | 23.08 | 22.07 |
| 1RB-Middle (12) |                | 826.5 (20425) | 23.92         | 23.08 | 22.02 |       |
|                 |                | 846.5 (20625) | 24.05         | 23.25 | 22.20 |       |
|                 |                | 836.5 (20525) | 24.02         | 23.33 | 22.23 |       |
| 1RB-Low (0)     |                | 826.5 (20425) | 24.09         | 23.19 | 22.03 |       |
|                 |                | 846.5 (20625) | 23.96         | 23.21 | 22.02 |       |
|                 |                | 836.5 (20525) | 23.92         | 23.10 | 22.07 |       |
| 12RB-High (13)  |                | 826.5 (20425) | 23.90         | 23.01 | 22.01 |       |
|                 |                | 846.5 (20625) | 22.95         | 21.94 | 20.92 |       |
|                 |                | 836.5 (20525) | 22.94         | 21.97 | 20.95 |       |
|                 |                | 826.5 (20425) | 22.94         | 21.95 | 20.90 |       |

|       |                  |               |       |       |       |
|-------|------------------|---------------|-------|-------|-------|
|       | 12RB-Middle (6)  | 846.5 (20625) | 23.02 | 22.01 | 20.97 |
|       |                  | 836.5 (20525) | 22.99 | 22.01 | 20.97 |
|       |                  | 826.5 (20425) | 22.98 | 21.99 | 20.94 |
|       | 12RB-Low (0)     | 846.5 (20625) | 23.01 | 21.97 | 20.95 |
|       |                  | 836.5 (20525) | 22.95 | 22.01 | 20.94 |
|       |                  | 826.5 (20425) | 22.93 | 21.94 | 20.89 |
|       | 25RB (0)         | 846.5 (20625) | 22.98 | 22.00 | 20.93 |
|       |                  | 836.5 (20525) | 22.96 | 22.00 | 20.93 |
|       |                  | 826.5 (20425) | 22.96 | 22.00 | 20.93 |
| 10MHz | 1RB-High (49)    | 844 (20600)   | 24.10 | 23.18 | 22.17 |
|       |                  | 836.5 (20525) | 24.05 | 23.30 | 22.08 |
|       |                  | 829 (20450)   | 24.05 | 23.17 | 22.13 |
|       | 1RB-Middle (24)  | 844 (20600)   | 24.24 | 23.28 | 22.26 |
|       |                  | 836.5 (20525) | 24.15 | 23.38 | 22.25 |
|       |                  | 829 (20450)   | 24.16 | 23.24 | 22.15 |
|       | 1RB-Low (0)      | 844 (20600)   | 24.10 | 23.36 | 22.12 |
|       |                  | 836.5 (20525) | 24.06 | 23.29 | 22.11 |
|       |                  | 829 (20450)   | 24.03 | 23.12 | 22.08 |
|       | 25RB-High (25)   | 844 (20600)   | 23.06 | 22.05 | 21.02 |
|       |                  | 836.5 (20525) | 23.08 | 22.11 | 21.03 |
|       |                  | 829 (20450)   | 23.04 | 22.05 | 20.97 |
|       | 25RB-Middle (12) | 844 (20600)   | 23.16 | 22.15 | 21.08 |
|       |                  | 836.5 (20525) | 23.10 | 22.11 | 21.06 |
|       |                  | 829 (20450)   | 23.06 | 22.07 | 21.01 |
|       | 25RB-Low (0)     | 844 (20600)   | 23.12 | 22.12 | 21.09 |
|       |                  | 836.5 (20525) | 23.10 | 22.15 | 21.08 |
|       |                  | 829 (20450)   | 23.12 | 22.12 | 20.99 |
|       | 50RB (0)         | 844 (20600)   | 23.10 | 22.10 | 21.05 |
|       |                  | 836.5 (20525) | 23.11 | 22.13 | 21.07 |
|       |                  | 829 (20450)   | 23.07 | 22.05 | 21.01 |

## LTE Band12 (Power Level A1/B1/C1)

| LTE B12        |                |               |               |       |       |       |
|----------------|----------------|---------------|---------------|-------|-------|-------|
| BANDWIDTH      | Number of RBs  | Frequency     | QPSK          | 16QAM | 64QAM |       |
| 1.4MHz         | 1RB-High (5)   | 715.3 (23173) | 23.84         | 23.21 | 22.00 |       |
|                |                | 707.5 (23095) | 23.85         | 23.14 | 21.93 |       |
|                |                | 699.7 (23017) | 23.85         | 23.09 | 21.98 |       |
|                | 1RB-Middle (3) | 715.3 (23173) | 23.95         | 23.31 | 22.14 |       |
|                |                | 707.5 (23095) | 23.98         | 23.29 | 22.11 |       |
|                |                | 699.7 (23017) | 24.00         | 23.17 | 22.02 |       |
|                | 1RB-Low (0)    | 715.3 (23173) | 23.81         | 23.23 | 22.07 |       |
|                |                | 707.5 (23095) | 23.89         | 23.24 | 22.04 |       |
|                |                | 699.7 (23017) | 23.84         | 23.13 | 21.99 |       |
|                | 3RB-High (3)   | 715.3 (23173) | 23.92         | 22.90 | 21.97 |       |
|                |                | 707.5 (23095) | 23.94         | 22.86 | 22.07 |       |
|                |                | 699.7 (23017) | 23.94         | 22.89 | 21.95 |       |
|                | 3RB-Middle (1) | 715.3 (23173) | 23.96         | 22.95 | 22.11 |       |
|                |                | 707.5 (23095) | 23.96         | 22.91 | 22.05 |       |
|                |                | 699.7 (23017) | 23.96         | 22.94 | 22.00 |       |
|                | 3RB-Low (0)    | 715.3 (23173) | 23.93         | 22.92 | 22.04 |       |
|                |                | 707.5 (23095) | 23.94         | 22.87 | 21.99 |       |
|                |                | 699.7 (23017) | 23.91         | 22.83 | 21.95 |       |
|                | 6RB (0)        | 715.3 (23173) | 22.96         | 22.03 | 20.86 |       |
|                |                | 707.5 (23095) | 22.91         | 21.99 | 20.91 |       |
|                |                | 699.7 (23017) | 22.88         | 21.96 | 20.88 |       |
|                | 3MHz           | 1RB-High (14) | 714.5 (23165) | 23.90 | 23.30 | 22.04 |
|                |                |               | 707.5 (23095) | 23.89 | 23.11 | 22.03 |
|                |                |               | 700.5 (23025) | 23.93 | 23.23 | 21.99 |
| 1RB-Middle (7) |                | 714.5 (23165) | 23.99         | 23.45 | 22.20 |       |
|                |                | 707.5 (23095) | 24.01         | 23.25 | 22.16 |       |
|                |                | 700.5 (23025) | 24.01         | 23.40 | 22.11 |       |
| 1RB-Low (0)    |                | 714.5 (23165) | 23.91         | 23.29 | 22.07 |       |
|                |                | 707.5 (23095) | 23.96         | 23.29 | 22.05 |       |
|                |                | 700.5 (23025) | 23.91         | 23.29 | 22.07 |       |
| 8RB-High (7)   |                | 714.5 (23165) | 22.94         | 21.98 | 20.87 |       |
|                |                | 707.5 (23095) | 22.87         | 21.94 | 20.90 |       |
|                |                | 700.5 (23025) | 22.87         | 21.94 | 20.89 |       |
| 8RB-Middle (4) |                | 714.5 (23165) | 22.99         | 22.02 | 20.93 |       |
|                |                | 707.5 (23095) | 22.93         | 21.97 | 20.93 |       |
|                |                | 700.5 (23025) | 22.92         | 21.98 | 20.93 |       |

|                  |                 |               |               |       |       |       |
|------------------|-----------------|---------------|---------------|-------|-------|-------|
|                  | 8RB-Low (0)     | 714.5 (23165) | 22.94         | 21.94 | 20.86 |       |
|                  |                 | 707.5 (23095) | 22.88         | 21.94 | 20.93 |       |
|                  |                 | 700.5 (23025) | 22.83         | 21.90 | 20.90 |       |
|                  | 15RB (0)        | 714.5 (23165) | 22.92         | 21.91 | 20.83 |       |
|                  |                 | 707.5 (23095) | 22.88         | 21.88 | 20.87 |       |
|                  |                 | 700.5 (23025) | 22.89         | 21.88 | 20.87 |       |
| 5MHz             | 1RB-High (24)   | 713.5 (23155) | 23.81         | 23.13 | 22.05 |       |
|                  |                 | 707.5 (23095) | 23.85         | 23.17 | 21.95 |       |
|                  |                 | 701.5 (23035) | 23.92         | 23.28 | 22.07 |       |
|                  | 1RB-Middle (12) | 713.5 (23155) | 24.10         | 23.51 | 22.23 |       |
|                  |                 | 707.5 (23095) | 23.99         | 23.47 | 22.16 |       |
|                  |                 | 701.5 (23035) | 24.08         | 23.45 | 22.22 |       |
|                  | 1RB-Low (0)     | 713.5 (23155) | 23.84         | 23.22 | 22.02 |       |
|                  |                 | 707.5 (23095) | 23.94         | 23.25 | 22.05 |       |
|                  |                 | 701.5 (23035) | 23.84         | 23.13 | 22.07 |       |
|                  | 12RB-High (13)  | 713.5 (23155) | 22.89         | 21.90 | 20.85 |       |
|                  |                 | 707.5 (23095) | 22.85         | 21.81 | 20.86 |       |
|                  |                 | 701.5 (23035) | 22.93         | 21.91 | 20.91 |       |
|                  | 12RB-Middle (6) | 713.5 (23155) | 22.97         | 21.95 | 20.92 |       |
|                  |                 | 707.5 (23095) | 22.96         | 21.94 | 20.94 |       |
|                  |                 | 701.5 (23035) | 22.97         | 21.94 | 20.95 |       |
|                  | 12RB-Low (0)    | 713.5 (23155) | 22.95         | 21.96 | 20.92 |       |
|                  |                 | 707.5 (23095) | 22.89         | 21.84 | 20.88 |       |
|                  |                 | 701.5 (23035) | 22.89         | 21.88 | 20.86 |       |
|                  | 25RB (0)        | 713.5 (23155) | 22.96         | 21.99 | 20.90 |       |
|                  |                 | 707.5 (23095) | 22.85         | 21.87 | 20.87 |       |
|                  |                 | 701.5 (23035) | 22.90         | 21.92 | 20.90 |       |
|                  | 10MHz           | 1RB-High (49) | 711 (23130)   | 23.81 | 23.27 | 22.08 |
|                  |                 |               | 707.5 (23095) | 23.81 | 23.08 | 21.94 |
|                  |                 |               | 704 (23060)   | 23.89 | 23.11 | 22.01 |
| 1RB-Middle (24)  |                 | 711 (23130)   | 23.91         | 23.21 | 22.06 |       |
|                  |                 | 707.5 (23095) | 23.97         | 23.27 | 22.10 |       |
|                  |                 | 704 (23060)   | 24.02         | 23.27 | 22.18 |       |
| 1RB-Low (0)      |                 | 711 (23130)   | 23.93         | 23.26 | 22.08 |       |
|                  |                 | 707.5 (23095) | 23.94         | 23.25 | 22.06 |       |
|                  |                 | 704 (23060)   | 23.88         | 23.16 | 22.04 |       |
| 25RB-High (25)   |                 | 711 (23130)   | 22.89         | 21.91 | 20.86 |       |
|                  |                 | 707.5 (23095) | 22.88         | 21.87 | 20.83 |       |
|                  |                 | 704 (23060)   | 23.01         | 22.04 | 21.05 |       |
| 25RB-Middle (12) | 711 (23130)     | 22.92         | 21.91         | 20.88 |       |       |

|  |              |               |               |       |       |       |
|--|--------------|---------------|---------------|-------|-------|-------|
|  | 25RB-Low (0) | 707.5 (23095) | 22.92         | 21.94 | 20.93 |       |
|  |              | 704 (23060)   | 22.96         | 21.94 | 20.96 |       |
|  |              | 711 (23130)   | 22.91         | 21.95 | 20.94 |       |
|  | 50RB (0)     | 25RB-Low (0)  | 707.5 (23095) | 22.94 | 21.94 | 20.94 |
|  |              |               | 704 (23060)   | 22.98 | 21.98 | 20.99 |
|  |              |               | 711 (23130)   | 22.91 | 21.92 | 20.92 |
|  |              | 50RB (0)      | 707.5 (23095) | 22.86 | 21.89 | 20.92 |
|  |              |               | 704 (23060)   | 23.02 | 22.00 | 21.01 |
|  |              |               | 711 (23130)   | 22.91 | 21.92 | 20.92 |

**LTE Band13 (Power Level A1/B1/C1)**

| LTE B13          |                 |                 |               |       |       |       |
|------------------|-----------------|-----------------|---------------|-------|-------|-------|
| BANDWIDTH        | Number of RBs   | Frequency       | QPSK          | 16QAM | 64QAM |       |
| 5MHz             | 1RB-High (24)   | 784.5 (23255)   | 23.81         | 23.10 | 21.91 |       |
|                  |                 | 782 (23230)     | 23.76         | 22.91 | 21.87 |       |
|                  |                 | 779.5 (23205)   | 23.80         | 23.03 | 21.81 |       |
|                  | 1RB-Middle (12) | 784.5 (23255)   | 24.01         | 23.14 | 21.96 |       |
|                  |                 | 782 (23230)     | 24.04         | 23.24 | 22.10 |       |
|                  |                 | 779.5 (23205)   | 23.93         | 23.16 | 22.07 |       |
|                  | 1RB-Low (0)     | 784.5 (23255)   | 23.83         | 23.11 | 21.93 |       |
|                  |                 | 782 (23230)     | 23.83         | 23.09 | 21.94 |       |
|                  |                 | 779.5 (23205)   | 23.85         | 22.95 | 21.82 |       |
|                  | 12RB-High (13)  | 12RB-High (13)  | 784.5 (23255) | 22.91 | 21.89 | 20.85 |
|                  |                 |                 | 782 (23230)   | 22.85 | 21.82 | 20.77 |
|                  |                 |                 | 779.5 (23205) | 22.93 | 21.84 | 20.80 |
|                  |                 | 12RB-Middle (6) | 784.5 (23255) | 22.94 | 21.91 | 20.90 |
|                  |                 |                 | 782 (23230)   | 22.95 | 21.89 | 20.90 |
|                  |                 |                 | 779.5 (23205) | 22.97 | 21.90 | 20.85 |
|                  | 12RB-Low (0)    | 12RB-Low (0)    | 784.5 (23255) | 22.99 | 21.91 | 20.89 |
|                  |                 |                 | 782 (23230)   | 22.91 | 21.85 | 20.82 |
|                  |                 |                 | 779.5 (23205) | 22.68 | 21.66 | 20.61 |
|                  | 25RB (0)        | 25RB (0)        | 784.5 (23255) | 22.93 | 21.94 | 20.88 |
|                  |                 |                 | 782 (23230)   | 22.92 | 21.86 | 20.84 |
|                  |                 |                 | 779.5 (23205) | 22.83 | 21.75 | 20.74 |
|                  | 10MHz           | 1RB-High (49)   | 782 (23230)   | 23.83 | 23.15 | 21.92 |
|                  |                 | 1RB-Middle (24) | 782 (23230)   | 23.97 | 23.18 | 22.05 |
|                  |                 | 1RB-Low (0)     | 782 (23230)   | 23.93 | 23.05 | 21.89 |
| 25RB-High (25)   |                 | 782 (23230)     | 22.85         | 21.82 | 20.83 |       |
| 25RB-Middle (12) |                 | 782 (23230)     | 22.97         | 21.94 | 20.88 |       |
| 25RB-Low (0)     |                 | 782 (23230)     | 22.71         | 21.67 | 20.62 |       |
| 50RB (0)         |                 | 782 (23230)     | 22.80         | 21.75 | 20.72 |       |

## LTE Band41 PC3 (Power Level A1/B1)

| LTE B41 PC3    |                 |                |       |       |       |
|----------------|-----------------|----------------|-------|-------|-------|
| BANDWIDTH      | Number of RBs   | Frequency      | QPSK  | 16QAM | 64QAM |
| 5MHz           | 1RB-High (24)   | 2687.5 (41565) | 23.40 | 22.59 | 21.08 |
|                |                 | 2640.3(41093)  | 23.17 | 22.30 | 20.87 |
|                |                 | 2593 (40620)   | 23.25 | 22.34 | 20.93 |
|                |                 | 2545.8(40148)  | 23.08 | 22.25 | 20.81 |
|                |                 | 2498.5 (39675) | 23.20 | 22.31 | 20.84 |
|                | 1RB-Middle (12) | 2687.5 (41565) | 23.58 | 22.75 | 21.28 |
|                |                 | 2640.3(41093)  | 23.38 | 22.53 | 21.03 |
|                |                 | 2593 (40620)   | 23.44 | 22.55 | 21.11 |
|                |                 | 2545.8(40148)  | 23.23 | 22.34 | 20.97 |
|                |                 | 2498.5 (39675) | 23.33 | 22.44 | 20.97 |
|                | 1RB-Low (0)     | 2687.5 (41565) | 23.44 | 22.62 | 21.12 |
|                |                 | 2640.3(41093)  | 23.19 | 22.32 | 20.90 |
|                |                 | 2593 (40620)   | 23.30 | 22.45 | 21.00 |
|                |                 | 2545.8(40148)  | 23.13 | 22.21 | 20.81 |
|                |                 | 2498.5 (39675) | 23.25 | 22.35 | 20.90 |
|                | 12RB-High (13)  | 2687.5 (41565) | 22.42 | 21.37 | 20.43 |
|                |                 | 2640.3(41093)  | 22.21 | 21.15 | 20.21 |
|                |                 | 2593 (40620)   | 22.26 | 21.25 | 20.30 |
|                |                 | 2545.8(40148)  | 22.13 | 21.07 | 20.11 |
|                |                 | 2498.5 (39675) | 22.22 | 21.16 | 20.22 |
|                | 12RB-Middle (6) | 2687.5 (41565) | 22.47 | 21.42 | 20.47 |
|                |                 | 2640.3(41093)  | 22.26 | 21.18 | 20.25 |
|                |                 | 2593 (40620)   | 22.35 | 21.32 | 20.35 |
|                |                 | 2545.8(40148)  | 22.21 | 21.12 | 20.13 |
|                |                 | 2498.5 (39675) | 22.29 | 21.23 | 20.25 |
|                | 12RB-Low (0)    | 2687.5 (41565) | 22.42 | 21.37 | 20.43 |
|                |                 | 2640.3(41093)  | 22.23 | 21.17 | 20.21 |
|                |                 | 2593 (40620)   | 22.31 | 21.26 | 20.31 |
| 2545.8(40148)  |                 | 22.11          | 21.03 | 20.07 |       |
| 2498.5 (39675) |                 | 22.25          | 21.16 | 20.21 |       |
| 25RB (0)       | 2687.5 (41565)  | 22.43          | 21.44 | 20.44 |       |
|                | 2640.3(41093)   | 22.23          | 21.24 | 20.24 |       |
|                | 2593 (40620)    | 22.30          | 21.32 | 20.34 |       |
|                | 2545.8(40148)   | 22.14          | 21.15 | 20.10 |       |
|                | 2498.5 (39675)  | 22.25          | 21.23 | 20.25 |       |
| 10MHz          | 1RB-High (49)   | 2685 (41540)   | 23.38 | 22.63 | 21.13 |

|                 |                  |                |                |       |       |
|-----------------|------------------|----------------|----------------|-------|-------|
|                 |                  | 2639(41080)    | 23.18          | 22.37 | 20.88 |
|                 |                  | 2593 (40620)   | 23.28          | 22.38 | 20.91 |
|                 |                  | 2547(40160)    | 23.13          | 22.28 | 20.79 |
|                 |                  | 2501 (39700)   | 23.22          | 22.34 | 20.86 |
|                 |                  | 2685 (41540)   | 23.45          | 22.66 | 21.18 |
|                 | 1RB-Middle (24)  | 2639(41080)    | 23.14          | 22.42 | 20.93 |
|                 |                  | 2593 (40620)   | 23.36          | 22.51 | 21.02 |
|                 |                  | 2547(40160)    | 23.22          | 22.32 | 20.85 |
|                 |                  | 2501 (39700)   | 23.27          | 22.37 | 20.90 |
|                 |                  | 2685 (41540)   | 23.41          | 22.62 | 21.15 |
|                 | 1RB-Low (0)      | 2639(41080)    | 23.18          | 22.40 | 20.93 |
|                 |                  | 2593 (40620)   | 23.39          | 22.51 | 21.06 |
|                 |                  | 2547(40160)    | 23.10          | 22.20 | 20.82 |
|                 |                  | 2501 (39700)   | 23.32          | 22.35 | 20.91 |
|                 |                  | 2685 (41540)   | 22.46          | 21.45 | 20.49 |
|                 | 25RB-High (25)   | 2639(41080)    | 22.23          | 21.24 | 20.26 |
|                 |                  | 2593 (40620)   | 22.32          | 21.33 | 20.35 |
|                 |                  | 2547(40160)    | 22.18          | 21.16 | 20.18 |
|                 |                  | 2501 (39700)   | 22.24          | 21.22 | 20.24 |
|                 |                  | 2685 (41540)   | 22.47          | 21.49 | 20.50 |
|                 | 25RB-Middle (12) | 2639(41080)    | 22.26          | 21.26 | 20.27 |
|                 |                  | 2593 (40620)   | 22.38          | 21.38 | 20.37 |
|                 |                  | 2547(40160)    | 22.19          | 21.18 | 20.18 |
|                 |                  | 2501 (39700)   | 22.24          | 21.24 | 20.25 |
|                 |                  | 2685 (41540)   | 22.53          | 21.51 | 20.53 |
|                 | 25RB-Low (0)     | 2639(41080)    | 22.31          | 21.32 | 20.35 |
|                 |                  | 2593 (40620)   | 22.39          | 21.41 | 20.41 |
|                 |                  | 2547(40160)    | 22.19          | 21.21 | 20.19 |
| 2501 (39700)    |                  | 22.27          | 21.27          | 20.28 |       |
| 2685 (41540)    |                  | 22.45          | 21.51          | 20.46 |       |
| 50RB (0)        | 2639(41080)      | 22.26          | 21.32          | 20.26 |       |
|                 | 2593 (40620)     | 22.35          | 21.38          | 20.33 |       |
|                 | 2547(40160)      | 22.15          | 21.18          | 20.11 |       |
|                 | 2501 (39700)     | 22.23          | 21.23          | 20.21 |       |
|                 | 15MHz            | 1RB-High (74)  | 2682.5 (41515) | 23.35 | 22.51 |
| 2637.8(41068)   |                  |                | 23.14          | 22.29 | 20.83 |
| 2593 (40620)    |                  |                | 23.21          | 22.31 | 20.85 |
| 2548.3(40173)   |                  |                | 23.11          | 22.22 | 20.78 |
| 2503.5 (39725)  |                  |                | 23.13          | 22.21 | 20.69 |
| 1RB-Middle (37) |                  | 2682.5 (41515) | 23.38          | 22.50 | 21.08 |



|                |                  |                |       |       |       |
|----------------|------------------|----------------|-------|-------|-------|
|                |                  | 2637.8(41068)  | 23.16 | 22.33 | 20.86 |
|                |                  | 2593 (40620)   | 23.31 | 22.43 | 20.97 |
|                |                  | 2548.3(40173)  | 23.13 | 22.27 | 20.81 |
|                |                  | 2503.5 (39725) | 23.20 | 22.38 | 20.85 |
|                | 1RB-Low (0)      | 2682.5 (41515) | 23.37 | 22.56 | 21.08 |
|                |                  | 2637.8(41068)  | 23.20 | 22.37 | 20.90 |
|                |                  | 2593 (40620)   | 23.30 | 22.45 | 21.07 |
|                |                  | 2548.3(40173)  | 23.05 | 22.24 | 20.80 |
|                |                  | 2503.5 (39725) | 23.28 | 22.31 | 20.85 |
|                | 36RB-High (38)   | 2682.5 (41515) | 22.46 | 21.39 | 20.38 |
|                |                  | 2637.8(41068)  | 22.19 | 21.13 | 20.17 |
|                |                  | 2593 (40620)   | 22.27 | 21.23 | 20.22 |
|                |                  | 2548.3(40173)  | 22.16 | 21.07 | 20.10 |
|                |                  | 2503.5 (39725) | 22.20 | 21.13 | 20.15 |
|                | 36RB-Middle (19) | 2682.5 (41515) | 22.45 | 21.39 | 20.40 |
|                |                  | 2637.8(41068)  | 22.23 | 21.20 | 20.19 |
|                |                  | 2593 (40620)   | 22.35 | 21.29 | 20.30 |
|                |                  | 2548.3(40173)  | 22.18 | 21.12 | 20.12 |
|                |                  | 2503.5 (39725) | 22.21 | 21.14 | 20.13 |
|                | 36RB-Low (0)     | 2682.5 (41515) | 22.43 | 21.39 | 20.39 |
| 2637.8(41068)  |                  | 22.22          | 21.18 | 20.16 |       |
| 2593 (40620)   |                  | 22.38          | 21.32 | 20.31 |       |
| 2548.3(40173)  |                  | 22.15          | 21.08 | 20.07 |       |
| 2503.5 (39725) |                  | 22.22          | 21.18 | 20.16 |       |
| 75RB (0)       | 2682.5 (41515)   | 22.41          | 21.41 | 20.41 |       |
|                | 2637.8(41068)    | 22.23          | 21.23 | 20.25 |       |
|                | 2593 (40620)     | 22.33          | 21.37 | 20.31 |       |
|                | 2548.3(40173)    | 22.12          | 21.13 | 20.09 |       |
|                | 2503.5 (39725)   | 22.19          | 21.20 | 20.17 |       |
| 20MHz          | 1RB-High (99)    | 2680 (41490)   | 23.30 | 22.44 | 20.97 |
|                |                  | 2636.5(41055)  | 23.13 | 22.29 | 20.81 |
|                |                  | 2593 (40620)   | 23.16 | 22.32 | 20.87 |
|                |                  | 2549.5(40185)  | 23.09 | 22.21 | 20.72 |
|                |                  | 2506 (39750)   | 23.07 | 22.19 | 20.70 |
|                | 1RB-Middle (50)  | 2680 (41490)   | 23.44 | 22.65 | 21.14 |
|                |                  | 2636.5(41055)  | 23.24 | 22.40 | 20.91 |
|                |                  | 2593 (40620)   | 23.36 | 22.49 | 21.12 |
|                |                  | 2549.5(40185)  | 23.30 | 22.30 | 20.86 |
|                |                  | 2506 (39750)   | 23.19 | 22.30 | 20.85 |
|                | 1RB-Low (0)      | 2680 (41490)   | 23.36 | 22.55 | 21.05 |

|               |                  |               |       |       |       |
|---------------|------------------|---------------|-------|-------|-------|
|               |                  | 2636.5(41055) | 23.21 | 22.38 | 20.91 |
|               |                  | 2593 (40620)  | 23.34 | 22.45 | 20.98 |
|               |                  | 2549.5(40185) | 23.11 | 22.21 | 20.78 |
|               |                  | 2506 (39750)  | 23.20 | 22.24 | 20.77 |
|               | 50RB-High (50)   | 2680 (41490)  | 22.40 | 21.42 | 20.42 |
|               |                  | 2636.5(41055) | 22.15 | 21.19 | 20.14 |
|               |                  | 2593 (40620)  | 22.25 | 21.31 | 20.26 |
|               |                  | 2549.5(40185) | 22.11 | 21.15 | 20.07 |
|               |                  | 2506 (39750)  | 22.10 | 21.12 | 20.08 |
|               | 50RB-Middle (25) | 2680 (41490)  | 22.41 | 21.44 | 20.41 |
|               |                  | 2636.5(41055) | 22.22 | 21.27 | 20.23 |
|               |                  | 2593 (40620)  | 22.32 | 21.37 | 20.31 |
|               |                  | 2549.5(40185) | 22.16 | 21.19 | 20.14 |
|               |                  | 2506 (39750)  | 22.17 | 21.21 | 20.15 |
|               | 50RB-Low (0)     | 2680 (41490)  | 22.38 | 21.42 | 20.40 |
|               |                  | 2636.5(41055) | 22.28 | 21.30 | 20.27 |
|               |                  | 2593 (40620)  | 22.33 | 21.39 | 20.33 |
|               |                  | 2549.5(40185) | 22.13 | 21.15 | 20.10 |
|               |                  | 2506 (39750)  | 22.16 | 21.20 | 20.17 |
|               | 100RB (0)        | 2680 (41490)  | 22.42 | 21.46 | 20.40 |
| 2636.5(41055) |                  | 22.24         | 21.26 | 20.22 |       |
| 2593 (40620)  |                  | 22.32         | 21.36 | 20.32 |       |
| 2549.5(40185) |                  | 22.13         | 21.15 | 20.10 |       |
| 2506 (39750)  |                  | 22.15         | 21.17 | 20.15 |       |

**LTE Band41 PC3 (Power Level C1)**

| LTE B41 PC3 |                 |                |       |       |       |
|-------------|-----------------|----------------|-------|-------|-------|
| BANDWIDTH   | Number of RBs   | Frequency      | QPSK  | 16QAM | 64QAM |
| 5MHz        | 1RB-High (24)   | 2687.5 (41565) | 20.85 | 20.94 | 20.49 |
|             |                 | 2640.3(41093)  | 20.57 | 20.81 | 20.36 |
|             |                 | 2593 (40620)   | 20.61 | 20.88 | 20.46 |
|             |                 | 2545.8(40148)  | 20.51 | 20.67 | 20.34 |
|             |                 | 2498.5 (39675) | 20.69 | 20.70 | 20.28 |
|             | 1RB-Middle (12) | 2687.5 (41565) | 20.88 | 21.17 | 20.61 |
|             |                 | 2640.3(41093)  | 20.75 | 20.84 | 20.51 |
|             |                 | 2593 (40620)   | 20.90 | 21.08 | 20.57 |
|             |                 | 2545.8(40148)  | 20.86 | 20.89 | 20.44 |
|             |                 | 2498.5 (39675) | 20.89 | 20.96 | 20.44 |
|             | 1RB-Low (0)     | 2687.5 (41565) | 20.84 | 20.94 | 20.53 |

|       |                 |                |                |       |       |       |
|-------|-----------------|----------------|----------------|-------|-------|-------|
|       |                 | 2640.3(41093)  | 20.71          | 20.94 | 20.50 |       |
|       |                 | 2593 (40620)   | 20.82          | 21.08 | 20.53 |       |
|       |                 | 2545.8(40148)  | 20.60          | 20.81 | 20.37 |       |
|       |                 | 2498.5 (39675) | 20.74          | 20.87 | 20.37 |       |
|       | 12RB-High (13)  |                | 2687.5 (41565) | 20.94 | 20.87 | 20.50 |
|       |                 |                | 2640.3(41093)  | 20.59 | 20.65 | 20.20 |
|       |                 |                | 2593 (40620)   | 20.83 | 20.84 | 20.33 |
|       |                 |                | 2545.8(40148)  | 20.59 | 20.61 | 20.19 |
|       |                 |                | 2498.5 (39675) | 20.78 | 20.75 | 20.27 |
|       | 12RB-Middle (6) |                | 2687.5 (41565) | 20.98 | 20.96 | 20.41 |
|       |                 |                | 2640.3(41093)  | 20.89 | 20.86 | 20.30 |
|       |                 |                | 2593 (40620)   | 21.07 | 20.96 | 20.42 |
|       |                 |                | 2545.8(40148)  | 20.74 | 20.77 | 20.22 |
|       |                 |                | 2498.5 (39675) | 20.69 | 20.75 | 20.32 |
|       | 12RB-Low (0)    |                | 2687.5 (41565) | 20.78 | 20.88 | 20.38 |
|       |                 |                | 2640.3(41093)  | 20.73 | 20.78 | 20.22 |
|       |                 |                | 2593 (40620)   | 20.89 | 21.00 | 20.32 |
|       |                 |                | 2545.8(40148)  | 20.68 | 20.71 | 20.19 |
|       |                 |                | 2498.5 (39675) | 20.79 | 20.78 | 20.28 |
|       | 25RB (0)        |                | 2687.5 (41565) | 20.91 | 20.99 | 20.42 |
|       |                 | 2640.3(41093)  | 20.74          | 20.83 | 20.25 |       |
|       |                 | 2593 (40620)   | 20.83          | 20.90 | 20.39 |       |
|       |                 | 2545.8(40148)  | 20.73          | 20.67 | 20.21 |       |
|       |                 | 2498.5 (39675) | 20.68          | 20.69 | 20.20 |       |
| 10MHz | 1RB-High (49)   | 2685 (41540)   | 20.77          | 20.93 | 20.44 |       |
|       |                 | 2639(41080)    | 20.66          | 20.69 | 20.38 |       |
|       |                 | 2593 (40620)   | 20.72          | 20.94 | 20.36 |       |
|       |                 | 2547(40160)    | 20.64          | 20.69 | 20.36 |       |
|       |                 | 2501 (39700)   | 20.60          | 20.79 | 20.31 |       |
|       | 1RB-Middle (24) | 2685 (41540)   | 20.87          | 21.05 | 20.67 |       |
|       |                 | 2639(41080)    | 20.74          | 20.93 | 20.38 |       |
|       |                 | 2593 (40620)   | 20.90          | 21.01 | 20.58 |       |
|       |                 | 2547(40160)    | 20.82          | 20.82 | 20.41 |       |
|       |                 | 2501 (39700)   | 20.74          | 20.90 | 20.50 |       |
|       | 1RB-Low (0)     | 2685 (41540)   | 20.79          | 20.96 | 20.54 |       |
|       |                 | 2639(41080)    | 20.68          | 20.87 | 20.53 |       |
|       |                 | 2593 (40620)   | 20.79          | 21.07 | 20.59 |       |
|       |                 | 2547(40160)    | 20.70          | 20.77 | 20.36 |       |
|       |                 | 2501 (39700)   | 20.71          | 20.84 | 20.42 |       |
|       | 25RB-High (25)  | 2685 (41540)   | 20.95          | 20.94 | 20.37 |       |

|                  |                  |                |       |       |       |
|------------------|------------------|----------------|-------|-------|-------|
|                  |                  | 2639(41080)    | 20.64 | 20.70 | 20.12 |
|                  |                  | 2593 (40620)   | 20.76 | 20.90 | 20.28 |
|                  |                  | 2547(40160)    | 20.58 | 20.65 | 20.10 |
|                  |                  | 2501 (39700)   | 20.70 | 20.73 | 20.13 |
|                  |                  | 2685 (41540)   | 21.03 | 20.98 | 20.36 |
|                  | 25RB-Middle (12) | 2639(41080)    | 20.80 | 20.80 | 20.19 |
|                  |                  | 2593 (40620)   | 20.94 | 20.84 | 20.45 |
|                  |                  | 2547(40160)    | 20.73 | 20.80 | 20.14 |
|                  |                  | 2501 (39700)   | 20.75 | 20.79 | 20.30 |
|                  |                  | 2685 (41540)   | 20.85 | 20.84 | 20.37 |
|                  | 25RB-Low (0)     | 2639(41080)    | 20.70 | 20.84 | 20.29 |
|                  |                  | 2593 (40620)   | 20.89 | 20.86 | 20.35 |
|                  |                  | 2547(40160)    | 20.66 | 20.75 | 20.11 |
|                  |                  | 2501 (39700)   | 20.76 | 20.88 | 20.31 |
|                  |                  | 2685 (41540)   | 20.87 | 20.94 | 20.36 |
|                  | 50RB (0)         | 2639(41080)    | 20.71 | 20.81 | 20.28 |
|                  |                  | 2593 (40620)   | 20.90 | 20.97 | 20.45 |
|                  |                  | 2547(40160)    | 20.63 | 20.67 | 20.20 |
|                  |                  | 2501 (39700)   | 20.79 | 20.71 | 20.28 |
|                  |                  | 2682.5 (41515) | 20.71 | 20.92 | 20.47 |
| 15MHz            | 1RB-High (74)    | 2637.8(41068)  | 20.59 | 20.69 | 20.33 |
|                  |                  | 2593 (40620)   | 20.70 | 20.86 | 20.39 |
|                  |                  | 2548.3(40173)  | 20.55 | 20.72 | 20.30 |
|                  |                  | 2503.5 (39725) | 20.68 | 20.80 | 20.38 |
|                  |                  | 2682.5 (41515) | 20.82 | 21.10 | 20.66 |
|                  | 1RB-Middle (37)  | 2637.8(41068)  | 20.83 | 20.83 | 20.48 |
|                  |                  | 2593 (40620)   | 20.82 | 21.10 | 20.63 |
|                  |                  | 2548.3(40173)  | 20.86 | 20.78 | 20.46 |
|                  |                  | 2503.5 (39725) | 20.89 | 20.92 | 20.54 |
|                  |                  | 2682.5 (41515) | 20.79 | 21.06 | 20.62 |
|                  | 1RB-Low (0)      | 2637.8(41068)  | 20.67 | 20.89 | 20.41 |
|                  |                  | 2593 (40620)   | 20.87 | 20.94 | 20.60 |
|                  |                  | 2548.3(40173)  | 20.68 | 20.79 | 20.31 |
|                  |                  | 2503.5 (39725) | 20.70 | 20.91 | 20.36 |
|                  |                  | 2682.5 (41515) | 20.83 | 21.00 | 20.39 |
|                  | 36RB-High (38)   | 2637.8(41068)  | 20.71 | 20.78 | 20.24 |
|                  |                  | 2593 (40620)   | 20.78 | 20.91 | 20.36 |
|                  |                  | 2548.3(40173)  | 20.69 | 20.70 | 20.13 |
|                  |                  | 2503.5 (39725) | 20.77 | 20.75 | 20.14 |
|                  |                  | 2682.5 (41515) | 21.02 | 20.92 | 20.35 |
| 36RB-Middle (19) | 2682.5 (41515)   | 21.02          | 20.92 | 20.35 |       |

|                  |                 |                |       |       |       |
|------------------|-----------------|----------------|-------|-------|-------|
|                  |                 | 2637.8(41068)  | 20.76 | 20.81 | 20.29 |
|                  |                 | 2593 (40620)   | 20.92 | 20.89 | 20.46 |
|                  |                 | 2548.3(40173)  | 20.77 | 20.78 | 20.22 |
|                  |                 | 2503.5 (39725) | 20.78 | 20.80 | 20.24 |
|                  |                 | 2682.5 (41515) | 20.85 | 20.84 | 20.35 |
|                  | 36RB-Low (0)    | 2637.8(41068)  | 20.66 | 20.78 | 20.26 |
|                  |                 | 2593 (40620)   | 20.88 | 20.89 | 20.44 |
|                  |                 | 2548.3(40173)  | 20.66 | 20.76 | 20.15 |
|                  |                 | 2503.5 (39725) | 20.75 | 20.78 | 20.30 |
|                  |                 | 2682.5 (41515) | 20.95 | 20.92 | 20.39 |
|                  | 75RB (0)        | 2637.8(41068)  | 20.81 | 20.79 | 20.20 |
|                  |                 | 2593 (40620)   | 20.85 | 20.94 | 20.43 |
|                  |                 | 2548.3(40173)  | 20.71 | 20.72 | 20.19 |
|                  |                 | 2503.5 (39725) | 20.71 | 20.78 | 20.32 |
|                  |                 | 2680 (41490)   | 20.80 | 21.00 | 20.53 |
| 20MHz            | 1RB-High (99)   | 2636.5(41055)  | 20.62 | 20.79 | 20.37 |
|                  |                 | 2593 (40620)   | 20.70 | 20.90 | 20.42 |
|                  |                 | 2549.5(40185)  | 20.61 | 20.73 | 20.34 |
|                  |                 | 2506 (39750)   | 20.66 | 20.79 | 20.34 |
|                  |                 | 2680 (41490)   | 20.90 | 21.14 | 20.70 |
|                  | 1RB-Middle (50) | 2636.5(41055)  | 20.83 | 20.91 | 20.48 |
|                  |                 | 2593 (40620)   | 20.86 | 21.05 | 20.58 |
|                  |                 | 2549.5(40185)  | 20.85 | 20.84 | 20.41 |
|                  |                 | 2506 (39750)   | 20.84 | 20.92 | 20.54 |
|                  |                 | 2680 (41490)   | 20.83 | 21.02 | 20.57 |
|                  | 1RB-Low (0)     | 2636.5(41055)  | 20.73 | 20.89 | 20.48 |
|                  |                 | 2593 (40620)   | 20.89 | 21.03 | 20.59 |
|                  |                 | 2549.5(40185)  | 20.70 | 20.80 | 20.39 |
|                  |                 | 2506 (39750)   | 20.80 | 20.92 | 20.43 |
|                  |                 | 2680 (41490)   | 20.90 | 20.96 | 20.45 |
| 50RB-High (50)   | 2636.5(41055)   | 20.66          | 20.73 | 20.19 |       |
|                  | 2593 (40620)    | 20.81          | 20.87 | 20.33 |       |
|                  | 2549.5(40185)   | 20.65          | 20.69 | 20.15 |       |
|                  | 2506 (39750)    | 20.73          | 20.75 | 20.23 |       |
|                  | 2680 (41490)    | 21.05          | 20.97 | 20.43 |       |
| 50RB-Middle (25) | 2636.5(41055)   | 20.86          | 20.81 | 20.29 |       |
|                  | 2593 (40620)    | 21.02          | 20.93 | 20.42 |       |
|                  | 2549.5(40185)   | 20.80          | 20.76 | 20.23 |       |
|                  | 2506 (39750)    | 20.75          | 20.81 | 20.29 |       |
|                  | 2680 (41490)    | 20.88          | 20.94 | 20.42 |       |
| 50RB-Low (0)     | 2680 (41490)    | 20.88          | 20.94 | 20.42 |       |

|  |           |               |       |       |       |
|--|-----------|---------------|-------|-------|-------|
|  |           | 2636.5(41055) | 20.76 | 20.84 | 20.31 |
|  |           | 2593 (40620)  | 20.90 | 20.95 | 20.42 |
|  |           | 2549.5(40185) | 20.69 | 20.76 | 20.19 |
|  |           | 2506 (39750)  | 20.77 | 20.83 | 20.29 |
|  | 100RB (0) | 2680 (41490)  | 20.91 | 20.98 | 20.44 |
|  |           | 2636.5(41055) | 20.76 | 20.80 | 20.28 |
|  |           | 2593 (40620)  | 20.88 | 20.92 | 20.40 |
|  |           | 2549.5(40185) | 20.70 | 20.70 | 20.21 |
|  |           | 2506 (39750)  | 20.78 | 20.79 | 20.27 |
|  |           |               |       |       |       |

**LTE Band41 PC2 (Power Level A1)**

| LTE B41 PC2    |                 |                |       |       |       |
|----------------|-----------------|----------------|-------|-------|-------|
| BANDWIDTH      | Number of RBs   | Frequency      | QPSK  | 16QAM | 64QAM |
| 5MHz           | 1RB-High (24)   | 2687.5 (41565) | 26.35 | 25.56 | 24.42 |
|                |                 | 2640.3(41093)  | 26.15 | 25.40 | 24.21 |
|                |                 | 2593 (40620)   | 26.23 | 25.52 | 24.28 |
|                |                 | 2545.8(40148)  | 26.11 | 25.33 | 24.10 |
|                |                 | 2498.5 (39675) | 26.18 | 25.34 | 24.13 |
|                | 1RB-Middle (12) | 2687.5 (41565) | 26.35 | 25.63 | 24.41 |
|                |                 | 2640.3(41093)  | 26.12 | 25.40 | 24.18 |
|                |                 | 2593 (40620)   | 26.28 | 25.48 | 24.27 |
|                |                 | 2545.8(40148)  | 26.10 | 25.31 | 24.08 |
|                |                 | 2498.5 (39675) | 26.21 | 25.35 | 24.13 |
|                | 1RB-Low (0)     | 2687.5 (41565) | 26.40 | 25.61 | 24.42 |
|                |                 | 2640.3(41093)  | 26.18 | 25.44 | 24.25 |
|                |                 | 2593 (40620)   | 26.28 | 25.48 | 24.32 |
|                |                 | 2545.8(40148)  | 26.11 | 25.32 | 24.09 |
|                |                 | 2498.5 (39675) | 26.21 | 25.36 | 24.15 |
|                | 12RB-High (13)  | 2687.5 (41565) | 25.42 | 24.41 | 23.44 |
|                |                 | 2640.3(41093)  | 25.21 | 24.21 | 23.25 |
|                |                 | 2593 (40620)   | 25.30 | 24.31 | 23.35 |
|                |                 | 2545.8(40148)  | 25.16 | 24.16 | 23.17 |
|                |                 | 2498.5 (39675) | 25.25 | 24.22 | 23.26 |
|                | 12RB-Middle (6) | 2687.5 (41565) | 25.44 | 24.47 | 23.49 |
|                |                 | 2640.3(41093)  | 25.24 | 24.23 | 23.27 |
|                |                 | 2593 (40620)   | 25.37 | 24.36 | 23.39 |
|                |                 | 2545.8(40148)  | 25.15 | 24.17 | 23.19 |
| 2498.5 (39675) |                 | 25.24          | 24.25 | 23.30 |       |
| 12RB-Low (0)   | 2687.5 (41565)  | 25.44          | 24.42 | 23.45 |       |

|                  |              |                |                |       |       |       |
|------------------|--------------|----------------|----------------|-------|-------|-------|
|                  |              | 2640.3(41093)  | 25.22          | 24.20 | 23.25 |       |
|                  |              | 2593 (40620)   | 25.34          | 24.35 | 23.37 |       |
|                  |              | 2545.8(40148)  | 25.12          | 24.11 | 23.13 |       |
|                  |              | 2498.5 (39675) | 25.22          | 24.23 | 23.26 |       |
|                  | 25RB (0)     |                | 2687.5 (41565) | 25.42 | 24.45 | 23.49 |
|                  |              |                | 2640.3(41093)  | 25.20 | 24.25 | 23.25 |
|                  |              |                | 2593 (40620)   | 25.35 | 24.35 | 23.39 |
|                  |              |                | 2545.8(40148)  | 25.13 | 24.14 | 23.18 |
|                  |              |                | 2498.5 (39675) | 25.23 | 24.26 | 23.27 |
|                  | 10MHz        | 1RB-High (49)  | 2685 (41540)   | 26.33 | 25.66 | 24.42 |
| 2639(41080)      |              |                | 26.13          | 25.43 | 24.21 |       |
| 2593 (40620)     |              |                | 26.26          | 25.49 | 24.27 |       |
| 2547(40160)      |              |                | 26.14          | 25.36 | 24.10 |       |
| 2501 (39700)     |              |                | 26.19          | 25.35 | 24.13 |       |
| 1RB-Middle (24)  |              | 2685 (41540)   | 26.46          | 25.73 | 24.53 |       |
|                  |              | 2639(41080)    | 26.23          | 25.50 | 24.32 |       |
|                  |              | 2593 (40620)   | 26.35          | 25.55 | 24.35 |       |
|                  |              | 2547(40160)    | 26.18          | 25.39 | 24.16 |       |
|                  |              | 2501 (39700)   | 26.24          | 25.40 | 24.17 |       |
| 1RB-Low (0)      |              | 2685 (41540)   | 26.42          | 25.71 | 24.48 |       |
|                  |              | 2639(41080)    | 26.21          | 25.48 | 24.24 |       |
|                  |              | 2593 (40620)   | 26.36          | 25.61 | 24.37 |       |
|                  |              | 2547(40160)    | 26.15          | 25.37 | 24.13 |       |
|                  |              | 2501 (39700)   | 26.24          | 25.41 | 24.17 |       |
| 25RB-High (25)   |              | 2685 (41540)   | 25.49          | 24.46 | 23.53 |       |
|                  |              | 2639(41080)    | 25.24          | 24.23 | 23.29 |       |
|                  |              | 2593 (40620)   | 25.34          | 24.35 | 23.41 |       |
|                  |              | 2547(40160)    | 25.18          | 24.20 | 23.23 |       |
|                  |              | 2501 (39700)   | 25.21          | 24.24 | 23.26 |       |
| 25RB-Middle (12) |              | 2685 (41540)   | 25.49          | 24.50 | 23.54 |       |
|                  |              | 2639(41080)    | 25.27          | 24.27 | 23.29 |       |
|                  |              | 2593 (40620)   | 25.36          | 24.40 | 23.45 |       |
|                  |              | 2547(40160)    | 25.17          | 24.19 | 23.23 |       |
|                  |              | 2501 (39700)   | 25.23          | 24.25 | 23.28 |       |
| 25RB-Low (0)     |              | 2685 (41540)   | 25.50          | 24.50 | 23.58 |       |
|                  |              | 2639(41080)    | 25.29          | 24.30 | 23.36 |       |
|                  |              | 2593 (40620)   | 25.39          | 24.39 | 23.45 |       |
|                  |              | 2547(40160)    | 25.19          | 24.19 | 23.24 |       |
|                  |              | 2501 (39700)   | 25.27          | 24.28 | 23.32 |       |
| 50RB (0)         | 2685 (41540) | 25.46          | 24.52          | 23.49 |       |       |

|          |                  |                |       |       |       |
|----------|------------------|----------------|-------|-------|-------|
|          |                  | 2639(41080)    | 25.25 | 24.27 | 23.24 |
|          |                  | 2593 (40620)   | 25.35 | 24.38 | 23.36 |
|          |                  | 2547(40160)    | 25.14 | 24.19 | 23.17 |
|          |                  | 2501 (39700)   | 25.24 | 24.26 | 23.24 |
| 15MHz    | 1RB-High (74)    | 2682.5 (41515) | 26.32 | 25.63 | 24.38 |
|          |                  | 2637.8(41068)  | 26.11 | 25.40 | 24.18 |
|          |                  | 2593 (40620)   | 26.20 | 25.44 | 24.21 |
|          |                  | 2548.3(40173)  | 26.14 | 25.34 | 24.11 |
|          |                  | 2503.5 (39725) | 26.12 | 25.29 | 24.04 |
|          | 1RB-Middle (37)  | 2682.5 (41515) | 26.35 | 25.63 | 24.40 |
|          |                  | 2637.8(41068)  | 26.16 | 25.41 | 24.21 |
|          |                  | 2593 (40620)   | 26.28 | 25.52 | 24.28 |
|          |                  | 2548.3(40173)  | 26.13 | 25.33 | 24.10 |
|          |                  | 2503.5 (39725) | 26.18 | 25.35 | 24.12 |
|          | 1RB-Low (0)      | 2682.5 (41515) | 26.31 | 25.68 | 24.45 |
|          |                  | 2637.8(41068)  | 26.21 | 25.45 | 24.25 |
|          |                  | 2593 (40620)   | 26.37 | 25.55 | 24.34 |
|          |                  | 2548.3(40173)  | 26.13 | 25.35 | 24.10 |
|          |                  | 2503.5 (39725) | 26.18 | 25.36 | 24.13 |
|          | 36RB-High (38)   | 2682.5 (41515) | 25.46 | 24.42 | 23.44 |
|          |                  | 2637.8(41068)  | 25.22 | 24.17 | 23.19 |
|          |                  | 2593 (40620)   | 25.33 | 24.27 | 23.27 |
|          |                  | 2548.3(40173)  | 25.17 | 24.11 | 23.12 |
|          |                  | 2503.5 (39725) | 25.20 | 24.14 | 23.15 |
|          | 36RB-Middle (19) | 2682.5 (41515) | 25.47 | 24.43 | 23.44 |
|          |                  | 2637.8(41068)  | 25.26 | 24.22 | 23.20 |
|          |                  | 2593 (40620)   | 25.38 | 24.33 | 23.32 |
|          |                  | 2548.3(40173)  | 25.20 | 24.13 | 23.16 |
|          |                  | 2503.5 (39725) | 25.22 | 24.16 | 23.17 |
|          | 36RB-Low (0)     | 2682.5 (41515) | 25.45 | 24.42 | 23.43 |
|          |                  | 2637.8(41068)  | 25.24 | 24.20 | 23.22 |
|          |                  | 2593 (40620)   | 25.40 | 24.34 | 23.37 |
|          |                  | 2548.3(40173)  | 25.17 | 24.11 | 23.12 |
|          |                  | 2503.5 (39725) | 25.24 | 24.18 | 23.18 |
| 75RB (0) | 2682.5 (41515)   | 25.44          | 24.44 | 23.44 |       |
|          | 2637.8(41068)    | 25.26          | 24.25 | 23.24 |       |
|          | 2593 (40620)     | 25.35          | 24.37 | 23.34 |       |
|          | 2548.3(40173)    | 25.13          | 24.14 | 23.13 |       |
|          | 2503.5 (39725)   | 25.19          | 24.20 | 23.18 |       |
| 20MHz    | 1RB-High (99)    | 2680 (41490)   | 26.33 | 25.61 | 24.37 |



|  |                  |               |       |       |       |
|--|------------------|---------------|-------|-------|-------|
|  |                  | 2636.5(41055) | 26.17 | 25.43 | 24.22 |
|  |                  | 2593 (40620)  | 26.22 | 25.46 | 24.22 |
|  |                  | 2549.5(40185) | 26.13 | 25.36 | 24.10 |
|  |                  | 2506 (39750)  | 26.09 | 25.24 | 24.03 |
|  | 1RB-Middle (50)  | 2680 (41490)  | 26.46 | 25.75 | 24.53 |
|  |                  | 2636.5(41055) | 26.24 | 25.51 | 24.27 |
|  |                  | 2593 (40620)  | 26.37 | 25.59 | 24.37 |
|  |                  | 2549.5(40185) | 26.21 | 25.43 | 24.15 |
|  |                  | 2506 (39750)  | 26.25 | 25.41 | 24.18 |
|  | 1RB-Low (0)      | 2680 (41490)  | 26.39 | 25.70 | 24.45 |
|  |                  | 2636.5(41055) | 26.27 | 25.51 | 24.26 |
|  |                  | 2593 (40620)  | 26.32 | 25.63 | 24.34 |
|  |                  | 2549.5(40185) | 26.16 | 25.36 | 24.10 |
|  |                  | 2506 (39750)  | 26.21 | 25.36 | 24.14 |
|  | 50RB-High (50)   | 2680 (41490)  | 25.45 | 24.47 | 23.43 |
|  |                  | 2636.5(41055) | 25.18 | 24.22 | 23.17 |
|  |                  | 2593 (40620)  | 25.32 | 24.39 | 23.31 |
|  |                  | 2549.5(40185) | 25.15 | 24.20 | 23.14 |
|  |                  | 2506 (39750)  | 25.17 | 24.18 | 23.14 |
|  | 50RB-Middle (25) | 2680 (41490)  | 25.46 | 24.48 | 23.45 |
|  |                  | 2636.5(41055) | 25.26 | 24.30 | 23.25 |
|  |                  | 2593 (40620)  | 25.38 | 24.42 | 23.38 |
|  |                  | 2549.5(40185) | 25.20 | 24.23 | 23.19 |
|  |                  | 2506 (39750)  | 25.21 | 24.25 | 23.19 |
|  | 50RB-Low (0)     | 2680 (41490)  | 25.42 | 24.45 | 23.44 |
|  |                  | 2636.5(41055) | 25.30 | 24.34 | 23.28 |
|  |                  | 2593 (40620)  | 25.38 | 24.43 | 23.40 |
|  |                  | 2549.5(40185) | 25.18 | 24.20 | 23.16 |
|  |                  | 2506 (39750)  | 25.23 | 24.24 | 23.21 |
|  | 100RB (0)        | 2680 (41490)  | 25.48 | 24.50 | 23.45 |
|  |                  | 2636.5(41055) | 25.27 | 24.30 | 23.25 |
|  |                  | 2593 (40620)  | 25.37 | 24.38 | 23.36 |
|  |                  | 2549.5(40185) | 25.14 | 24.17 | 23.14 |
|  |                  | 2506 (39750)  | 25.19 | 24.20 | 23.16 |

**LTE Band41 PC2 (Power Level B1)**

| LTE B41 PC2 |               |                |       |       |       |
|-------------|---------------|----------------|-------|-------|-------|
| BANDWIDTH   | Number of RBs | Frequency      | QPSK  | 16QAM | 64QAM |
| 5MHz        | 1RB-High (24) | 2687.5 (41565) | 25.42 | 25.70 | 24.44 |

|                |                 |                |       |       |       |
|----------------|-----------------|----------------|-------|-------|-------|
|                |                 | 2640.3(41093)  | 25.03 | 25.25 | 24.22 |
|                |                 | 2593 (40620)   | 25.35 | 25.60 | 24.25 |
|                |                 | 2545.8(40148)  | 25.37 | 25.58 | 24.30 |
|                |                 | 2498.5 (39675) | 25.38 | 25.43 | 24.34 |
|                | 1RB-Middle (12) | 2687.5 (41565) | 25.32 | 25.62 | 24.58 |
|                |                 | 2640.3(41093)  | 25.19 | 25.43 | 24.26 |
|                |                 | 2593 (40620)   | 25.53 | 25.62 | 24.35 |
|                |                 | 2545.8(40148)  | 25.34 | 25.64 | 24.22 |
|                |                 | 2498.5 (39675) | 25.42 | 25.53 | 24.48 |
|                | 1RB-Low (0)     | 2687.5 (41565) | 25.38 | 25.72 | 24.37 |
|                |                 | 2640.3(41093)  | 25.32 | 25.64 | 24.22 |
|                |                 | 2593 (40620)   | 25.51 | 25.68 | 24.43 |
|                |                 | 2545.8(40148)  | 25.42 | 25.43 | 24.35 |
|                |                 | 2498.5 (39675) | 25.30 | 25.53 | 24.37 |
|                | 12RB-High (13)  | 2687.5 (41565) | 25.32 | 24.53 | 23.33 |
|                |                 | 2640.3(41093)  | 25.20 | 24.10 | 23.17 |
|                |                 | 2593 (40620)   | 25.37 | 24.52 | 23.35 |
|                |                 | 2545.8(40148)  | 25.29 | 24.46 | 23.31 |
|                |                 | 2498.5 (39675) | 25.37 | 24.45 | 23.35 |
|                | 12RB-Middle (6) | 2687.5 (41565) | 25.51 | 24.40 | 23.44 |
|                |                 | 2640.3(41093)  | 25.18 | 24.34 | 23.20 |
|                |                 | 2593 (40620)   | 25.37 | 24.45 | 23.42 |
|                |                 | 2545.8(40148)  | 25.37 | 24.34 | 23.44 |
|                |                 | 2498.5 (39675) | 25.45 | 24.48 | 23.55 |
|                | 12RB-Low (0)    | 2687.5 (41565) | 25.54 | 24.45 | 23.33 |
|                |                 | 2640.3(41093)  | 25.31 | 24.33 | 23.22 |
|                |                 | 2593 (40620)   | 25.53 | 24.45 | 23.59 |
|                |                 | 2545.8(40148)  | 25.39 | 24.27 | 23.20 |
| 2498.5 (39675) |                 | 25.48          | 24.39 | 23.36 |       |
| 25RB (0)       | 2687.5 (41565)  | 25.37          | 24.38 | 23.46 |       |
|                | 2640.3(41093)   | 25.16          | 24.32 | 23.32 |       |
|                | 2593 (40620)    | 25.37          | 24.53 | 23.35 |       |
|                | 2545.8(40148)   | 25.31          | 24.43 | 23.40 |       |
|                | 2498.5 (39675)  | 25.33          | 24.46 | 23.50 |       |
| 10MHz          | 1RB-High (49)   | 2685 (41540)   | 25.26 | 25.71 | 24.38 |
|                |                 | 2639(41080)    | 25.03 | 25.42 | 24.23 |
|                |                 | 2593 (40620)   | 25.38 | 25.62 | 24.38 |
|                |                 | 2547(40160)    | 25.19 | 25.53 | 24.17 |
|                |                 | 2501 (39700)   | 25.36 | 25.36 | 24.27 |
|                | 1RB-Middle (24) | 2685 (41540)   | 25.41 | 25.78 | 24.57 |

|             |                  |                |       |       |       |
|-------------|------------------|----------------|-------|-------|-------|
|             |                  | 2639(41080)    | 25.23 | 25.55 | 24.19 |
|             |                  | 2593 (40620)   | 25.39 | 25.66 | 24.35 |
|             |                  | 2547(40160)    | 25.28 | 25.43 | 24.44 |
|             |                  | 2501 (39700)   | 25.43 | 25.55 | 24.32 |
|             |                  | 2685 (41540)   | 25.58 | 25.66 | 24.46 |
|             | 1RB-Low (0)      | 2639(41080)    | 25.34 | 25.43 | 24.22 |
|             |                  | 2593 (40620)   | 25.40 | 25.68 | 24.58 |
|             |                  | 2547(40160)    | 25.29 | 25.56 | 24.12 |
|             |                  | 2501 (39700)   | 25.46 | 25.42 | 24.45 |
|             |                  | 2685 (41540)   | 25.45 | 24.52 | 23.51 |
|             | 25RB-High (25)   | 2639(41080)    | 25.20 | 24.12 | 23.07 |
|             |                  | 2593 (40620)   | 25.45 | 24.32 | 23.47 |
|             |                  | 2547(40160)    | 25.25 | 24.36 | 23.18 |
|             |                  | 2501 (39700)   | 25.42 | 24.40 | 23.51 |
|             |                  | 2685 (41540)   | 25.55 | 24.42 | 23.52 |
|             | 25RB-Middle (12) | 2639(41080)    | 25.22 | 24.31 | 23.15 |
|             |                  | 2593 (40620)   | 25.58 | 24.50 | 23.47 |
|             |                  | 2547(40160)    | 25.29 | 24.40 | 23.37 |
|             |                  | 2501 (39700)   | 25.49 | 24.54 | 23.48 |
|             |                  | 2685 (41540)   | 25.38 | 24.46 | 23.41 |
|             | 25RB-Low (0)     | 2639(41080)    | 25.40 | 24.30 | 23.29 |
|             |                  | 2593 (40620)   | 25.49 | 24.45 | 23.47 |
|             |                  | 2547(40160)    | 25.19 | 24.38 | 23.38 |
|             |                  | 2501 (39700)   | 25.39 | 24.57 | 23.44 |
|             |                  | 2685 (41540)   | 25.55 | 24.52 | 23.52 |
| 50RB (0)    | 2639(41080)      | 25.38          | 24.38 | 23.18 |       |
|             | 2593 (40620)     | 25.44          | 24.35 | 23.37 |       |
|             | 2547(40160)      | 25.35          | 24.44 | 23.40 |       |
|             | 2501 (39700)     | 25.32          | 24.42 | 23.40 |       |
|             | 2682.5 (41515)   | 25.41          | 25.63 | 24.34 |       |
| 15MHz       | 1RB-High (74)    | 2637.8(41068)  | 25.15 | 25.31 | 24.12 |
|             |                  | 2593 (40620)   | 25.17 | 25.52 | 24.39 |
|             |                  | 2548.3(40173)  | 25.39 | 25.55 | 24.28 |
|             |                  | 2503.5 (39725) | 25.35 | 25.41 | 24.14 |
|             |                  | 2682.5 (41515) | 25.34 | 25.63 | 24.47 |
|             | 1RB-Middle (37)  | 2637.8(41068)  | 25.13 | 25.41 | 24.32 |
|             |                  | 2593 (40620)   | 25.47 | 25.76 | 24.37 |
|             |                  | 2548.3(40173)  | 25.41 | 25.45 | 24.23 |
|             |                  | 2503.5 (39725) | 25.38 | 25.48 | 24.37 |
|             |                  | 2682.5 (41515) | 25.47 | 25.74 | 24.31 |
| 1RB-Low (0) | 2682.5 (41515)   | 25.47          | 25.74 | 24.31 |       |

|                |                  |                |       |       |       |
|----------------|------------------|----------------|-------|-------|-------|
|                |                  | 2637.8(41068)  | 25.38 | 25.44 | 24.42 |
|                |                  | 2593 (40620)   | 25.48 | 25.64 | 24.44 |
|                |                  | 2548.3(40173)  | 25.40 | 25.43 | 24.30 |
|                |                  | 2503.5 (39725) | 25.35 | 25.49 | 24.44 |
|                | 36RB-High (38)   | 2682.5 (41515) | 25.39 | 24.51 | 23.44 |
|                |                  | 2637.8(41068)  | 25.18 | 24.10 | 23.09 |
|                |                  | 2593 (40620)   | 25.34 | 24.48 | 23.48 |
|                |                  | 2548.3(40173)  | 25.18 | 24.39 | 23.30 |
|                |                  | 2503.5 (39725) | 25.44 | 24.27 | 23.53 |
|                | 36RB-Middle (19) | 2682.5 (41515) | 25.32 | 24.56 | 23.53 |
|                |                  | 2637.8(41068)  | 25.28 | 24.17 | 23.31 |
|                |                  | 2593 (40620)   | 25.41 | 24.62 | 23.44 |
|                |                  | 2548.3(40173)  | 25.22 | 24.33 | 23.30 |
|                |                  | 2503.5 (39725) | 25.37 | 24.59 | 23.56 |
|                | 36RB-Low (0)     | 2682.5 (41515) | 25.58 | 24.40 | 23.39 |
|                |                  | 2637.8(41068)  | 25.42 | 24.33 | 23.21 |
|                |                  | 2593 (40620)   | 25.50 | 24.58 | 23.38 |
|                |                  | 2548.3(40173)  | 25.37 | 24.26 | 23.37 |
|                |                  | 2503.5 (39725) | 25.32 | 24.39 | 23.36 |
|                | 75RB (0)         | 2682.5 (41515) | 25.35 | 24.41 | 23.38 |
| 2637.8(41068)  |                  | 25.20          | 24.38 | 23.31 |       |
| 2593 (40620)   |                  | 25.51          | 24.43 | 23.33 |       |
| 2548.3(40173)  |                  | 25.29          | 24.43 | 23.25 |       |
| 2503.5 (39725) |                  | 25.46          | 24.34 | 23.47 |       |
| 20MHz          | 1RB-High (99)    | 2680 (41490)   | 25.45 | 25.69 | 24.47 |
|                |                  | 2636.5(41055)  | 25.15 | 25.43 | 24.23 |
|                |                  | 2593 (40620)   | 25.36 | 25.59 | 24.35 |
|                |                  | 2549.5(40185)  | 25.35 | 25.54 | 24.31 |
|                |                  | 2506 (39750)   | 25.38 | 25.54 | 24.32 |
|                | 1RB-Middle (50)  | 2680 (41490)   | 25.50 | 25.78 | 24.53 |
|                |                  | 2636.5(41055)  | 25.32 | 25.56 | 24.35 |
|                |                  | 2593 (40620)   | 25.54 | 25.75 | 24.53 |
|                |                  | 2549.5(40185)  | 25.41 | 25.61 | 24.39 |
|                |                  | 2506 (39750)   | 25.51 | 25.67 | 24.45 |
|                | 1RB-Low (0)      | 2680 (41490)   | 25.58 | 25.71 | 24.50 |
|                |                  | 2636.5(41055)  | 25.37 | 25.60 | 24.39 |
|                |                  | 2593 (40620)   | 25.55 | 25.77 | 24.54 |
|                |                  | 2549.5(40185)  | 25.37 | 25.56 | 24.32 |
|                |                  | 2506 (39750)   | 25.50 | 25.61 | 24.44 |
|                | 50RB-High (50)   | 2680 (41490)   | 25.50 | 24.52 | 23.52 |

|  |                  |               |       |       |       |
|--|------------------|---------------|-------|-------|-------|
|  |                  | 2636.5(41055) | 25.24 | 24.29 | 23.24 |
|  |                  | 2593 (40620)  | 25.45 | 24.50 | 23.47 |
|  |                  | 2549.5(40185) | 25.35 | 24.42 | 23.37 |
|  |                  | 2506 (39750)  | 25.46 | 24.47 | 23.48 |
|  | 50RB-Middle (25) | 2680 (41490)  | 25.51 | 24.52 | 23.51 |
|  |                  | 2636.5(41055) | 25.33 | 24.37 | 23.32 |
|  |                  | 2593 (40620)  | 25.54 | 24.59 | 23.53 |
|  |                  | 2549.5(40185) | 25.40 | 24.45 | 23.41 |
|  |                  | 2506 (39750)  | 25.51 | 24.54 | 23.53 |
|  | 50RB-Low (0)     | 2680 (41490)  | 25.57 | 24.45 | 23.46 |
|  |                  | 2636.5(41055) | 25.40 | 24.42 | 23.40 |
|  |                  | 2593 (40620)  | 25.55 | 24.60 | 23.55 |
|  |                  | 2549.5(40185) | 25.37 | 24.44 | 23.37 |
|  |                  | 2506 (39750)  | 25.51 | 24.52 | 23.52 |
|  | 100RB (0)        | 2680 (41490)  | 25.50 | 24.53 | 23.50 |
|  |                  | 2636.5(41055) | 25.36 | 24.36 | 23.33 |
|  |                  | 2593 (40620)  | 25.48 | 24.53 | 23.49 |
|  |                  | 2549.5(40185) | 25.35 | 24.40 | 23.37 |
|  |                  | 2506 (39750)  | 25.50 | 24.50 | 23.50 |

**LTE Band41 PC2 (Power Level C1)**

| LTE B41 PC2 |                 |                |       |       |       |
|-------------|-----------------|----------------|-------|-------|-------|
| BANDWIDTH   | Number of RBs   | Frequency      | QPSK  | 16QAM | 64QAM |
| 5MHz        | 1RB-High (24)   | 2687.5 (41565) | 22.94 | 22.89 | 22.63 |
|             |                 | 2640.3(41093)  | 22.76 | 22.83 | 22.55 |
|             |                 | 2593 (40620)   | 22.76 | 22.91 | 22.49 |
|             |                 | 2545.8(40148)  | 22.74 | 22.66 | 22.47 |
|             |                 | 2498.5 (39675) | 22.59 | 22.72 | 22.37 |
|             | 1RB-Middle (12) | 2687.5 (41565) | 22.99 | 22.87 | 22.79 |
|             |                 | 2640.3(41093)  | 22.83 | 22.90 | 22.55 |
|             |                 | 2593 (40620)   | 22.97 | 22.96 | 22.64 |
|             |                 | 2545.8(40148)  | 22.73 | 22.81 | 22.57 |
|             |                 | 2498.5 (39675) | 22.80 | 22.88 | 22.54 |
|             | 1RB-Low (0)     | 2687.5 (41565) | 22.91 | 22.89 | 22.74 |
|             |                 | 2640.3(41093)  | 22.89 | 22.92 | 22.69 |
|             |                 | 2593 (40620)   | 22.91 | 22.90 | 22.61 |
|             |                 | 2545.8(40148)  | 22.77 | 22.76 | 22.50 |
|             |                 | 2498.5 (39675) | 22.71 | 22.77 | 22.48 |
|             | 12RB-High (13)  | 2687.5 (41565) | 22.92 | 22.75 | 22.72 |

|                  |                 |                |              |       |       |
|------------------|-----------------|----------------|--------------|-------|-------|
|                  |                 | 2640.3(41093)  | 22.72        | 22.45 | 22.43 |
|                  |                 | 2593 (40620)   | 22.81        | 22.70 | 22.71 |
|                  |                 | 2545.8(40148)  | 22.61        | 22.51 | 22.45 |
|                  |                 | 2498.5 (39675) | 22.73        | 22.54 | 22.60 |
|                  | 12RB-Middle (6) | 2687.5 (41565) | 23.00        | 22.72 | 22.73 |
|                  |                 | 2640.3(41093)  | 22.76        | 22.60 | 22.61 |
|                  |                 | 2593 (40620)   | 22.88        | 22.81 | 22.79 |
|                  |                 | 2545.8(40148)  | 22.76        | 22.62 | 22.54 |
|                  |                 | 2498.5 (39675) | 22.83        | 22.64 | 22.58 |
|                  | 12RB-Low (0)    | 2687.5 (41565) | 22.88        | 22.83 | 22.67 |
|                  |                 | 2640.3(41093)  | 22.77        | 22.66 | 22.64 |
|                  |                 | 2593 (40620)   | 22.94        | 22.69 | 22.75 |
|                  |                 | 2545.8(40148)  | 22.63        | 22.54 | 22.60 |
|                  |                 | 2498.5 (39675) | 22.86        | 22.65 | 22.59 |
|                  | 25RB (0)        | 2687.5 (41565) | 22.82        | 22.80 | 22.78 |
|                  |                 | 2640.3(41093)  | 22.75        | 22.55 | 22.50 |
|                  |                 | 2593 (40620)   | 22.89        | 22.69 | 22.69 |
|                  |                 | 2545.8(40148)  | 22.65        | 22.55 | 22.44 |
|                  |                 | 2498.5 (39675) | 22.72        | 22.62 | 22.58 |
|                  | 10MHz           | 1RB-High (49)  | 2685 (41540) | 22.88 | 22.94 |
| 2639(41080)      |                 |                | 22.63        | 22.84 | 22.49 |
| 2593 (40620)     |                 |                | 22.78        | 22.86 | 22.49 |
| 2547(40160)      |                 |                | 22.69        | 22.68 | 22.46 |
| 2501 (39700)     |                 |                | 22.68        | 22.74 | 22.46 |
| 1RB-Middle (24)  |                 | 2685 (41540)   | 22.95        | 22.89 | 22.82 |
|                  |                 | 2639(41080)    | 22.80        | 22.80 | 22.54 |
|                  |                 | 2593 (40620)   | 22.89        | 22.86 | 22.66 |
|                  |                 | 2547(40160)    | 22.73        | 22.78 | 22.48 |
|                  |                 | 2501 (39700)   | 22.82        | 22.84 | 22.55 |
| 1RB-Low (0)      |                 | 2685 (41540)   | 22.96        | 22.78 | 22.67 |
|                  |                 | 2639(41080)    | 22.85        | 22.83 | 22.64 |
|                  |                 | 2593 (40620)   | 22.86        | 22.95 | 22.67 |
|                  |                 | 2547(40160)    | 22.75        | 22.71 | 22.46 |
|                  |                 | 2501 (39700)   | 22.78        | 22.86 | 22.60 |
| 25RB-High (25)   |                 | 2685 (41540)   | 22.91        | 22.72 | 22.77 |
|                  |                 | 2639(41080)    | 22.66        | 22.53 | 22.54 |
|                  |                 | 2593 (40620)   | 22.74        | 22.72 | 22.61 |
|                  |                 | 2547(40160)    | 22.59        | 22.45 | 22.40 |
|                  |                 | 2501 (39700)   | 22.73        | 22.64 | 22.57 |
| 25RB-Middle (12) | 2685 (41540)    | 22.97          | 22.83        | 22.67 |       |

|                  |                 |                |       |       |       |
|------------------|-----------------|----------------|-------|-------|-------|
|                  |                 | 2639(41080)    | 22.78 | 22.64 | 22.54 |
|                  |                 | 2593 (40620)   | 22.92 | 22.69 | 22.70 |
|                  |                 | 2547(40160)    | 22.72 | 22.53 | 22.55 |
|                  |                 | 2501 (39700)   | 22.72 | 22.56 | 22.58 |
|                  |                 | 2685 (41540)   | 22.95 | 22.75 | 22.76 |
|                  | 25RB-Low (0)    | 2639(41080)    | 22.80 | 22.70 | 22.61 |
|                  |                 | 2593 (40620)   | 22.86 | 22.73 | 22.80 |
|                  |                 | 2547(40160)    | 22.72 | 22.58 | 22.51 |
|                  |                 | 2501 (39700)   | 22.78 | 22.58 | 22.62 |
|                  |                 | 2685 (41540)   | 22.85 | 22.76 | 22.79 |
|                  | 50RB (0)        | 2639(41080)    | 22.79 | 22.64 | 22.58 |
|                  |                 | 2593 (40620)   | 22.80 | 22.67 | 22.70 |
|                  |                 | 2547(40160)    | 22.73 | 22.46 | 22.56 |
|                  |                 | 2501 (39700)   | 22.76 | 22.63 | 22.50 |
|                  |                 | 2682.5 (41515) | 22.85 | 22.99 | 22.76 |
| 15MHz            | 1RB-High (74)   | 2637.8(41068)  | 22.65 | 22.83 | 22.54 |
|                  |                 | 2593 (40620)   | 22.77 | 22.80 | 22.49 |
|                  |                 | 2548.3(40173)  | 22.74 | 22.65 | 22.45 |
|                  |                 | 2503.5 (39725) | 22.66 | 22.66 | 22.41 |
|                  |                 | 2682.5 (41515) | 22.94 | 22.85 | 22.79 |
|                  | 1RB-Middle (37) | 2637.8(41068)  | 22.78 | 22.88 | 22.53 |
|                  |                 | 2593 (40620)   | 22.86 | 22.95 | 22.68 |
|                  |                 | 2548.3(40173)  | 22.79 | 22.85 | 22.60 |
|                  |                 | 2503.5 (39725) | 22.77 | 22.82 | 22.66 |
|                  |                 | 2682.5 (41515) | 22.88 | 22.87 | 22.66 |
|                  | 1RB-Low (0)     | 2637.8(41068)  | 22.78 | 22.91 | 22.67 |
|                  |                 | 2593 (40620)   | 22.88 | 22.89 | 22.63 |
|                  |                 | 2548.3(40173)  | 22.65 | 22.72 | 22.47 |
|                  |                 | 2503.5 (39725) | 22.77 | 22.79 | 22.52 |
|                  |                 | 2682.5 (41515) | 22.92 | 22.74 | 22.71 |
| 36RB-High (38)   | 2637.8(41068)   | 22.73          | 22.46 | 22.54 |       |
|                  | 2593 (40620)    | 22.87          | 22.69 | 22.68 |       |
|                  | 2548.3(40173)   | 22.56          | 22.50 | 22.50 |       |
|                  | 2503.5 (39725)  | 22.66          | 22.58 | 22.51 |       |
|                  | 2682.5 (41515)  | 22.89          | 22.75 | 22.79 |       |
| 36RB-Middle (19) | 2637.8(41068)   | 22.77          | 22.53 | 22.54 |       |
|                  | 2593 (40620)    | 22.82          | 22.74 | 22.78 |       |
|                  | 2548.3(40173)   | 22.65          | 22.65 | 22.62 |       |
|                  | 2503.5 (39725)  | 22.69          | 22.57 | 22.55 |       |
|                  | 2682.5 (41515)  | 22.83          | 22.68 | 22.69 |       |
| 36RB-Low (0)     | 2682.5 (41515)  | 22.83          | 22.68 | 22.69 |       |

|                  |               |                |              |       |       |
|------------------|---------------|----------------|--------------|-------|-------|
|                  |               | 2637.8(41068)  | 22.85        | 22.66 | 22.64 |
|                  |               | 2593 (40620)   | 22.85        | 22.78 | 22.70 |
|                  |               | 2548.3(40173)  | 22.67        | 22.52 | 22.53 |
|                  |               | 2503.5 (39725) | 22.83        | 22.63 | 22.51 |
|                  | 75RB (0)      | 2682.5 (41515) | 22.90        | 22.73 | 22.80 |
|                  |               | 2637.8(41068)  | 22.72        | 22.63 | 22.53 |
|                  |               | 2593 (40620)   | 22.86        | 22.65 | 22.61 |
|                  |               | 2548.3(40173)  | 22.67        | 22.61 | 22.57 |
|                  |               | 2503.5 (39725) | 22.71        | 22.54 | 22.50 |
|                  | 20MHz         | 1RB-High (99)  | 2680 (41490) | 22.93 | 22.95 |
| 2636.5(41055)    |               |                | 22.71        | 22.81 | 22.52 |
| 2593 (40620)     |               |                | 22.81        | 22.86 | 22.59 |
| 2549.5(40185)    |               |                | 22.70        | 22.74 | 22.45 |
| 2506 (39750)     |               |                | 22.69        | 22.74 | 22.45 |
| 1RB-Middle (50)  |               | 2680 (41490)   | 23.00        | 22.97 | 22.82 |
|                  |               | 2636.5(41055)  | 22.82        | 22.87 | 22.57 |
|                  |               | 2593 (40620)   | 22.96        | 22.94 | 22.74 |
|                  |               | 2549.5(40185)  | 22.80        | 22.85 | 22.56 |
|                  |               | 2506 (39750)   | 22.87        | 22.89 | 22.61 |
| 1RB-Low (0)      |               | 2680 (41490)   | 22.95        | 22.95 | 22.75 |
|                  |               | 2636.5(41055)  | 22.84        | 22.93 | 22.64 |
|                  |               | 2593 (40620)   | 22.94        | 22.99 | 22.70 |
|                  |               | 2549.5(40185)  | 22.72        | 22.78 | 22.48 |
|                  |               | 2506 (39750)   | 22.81        | 22.82 | 22.57 |
| 50RB-High (50)   |               | 2680 (41490)   | 22.93        | 22.80 | 22.77 |
|                  |               | 2636.5(41055)  | 22.68        | 22.55 | 22.52 |
|                  |               | 2593 (40620)   | 22.84        | 22.69 | 22.68 |
|                  |               | 2549.5(40185)  | 22.66        | 22.55 | 22.50 |
|                  |               | 2506 (39750)   | 22.71        | 22.59 | 22.55 |
| 50RB-Middle (25) |               | 2680 (41490)   | 22.95        | 22.81 | 22.77 |
|                  |               | 2636.5(41055)  | 22.78        | 22.63 | 22.60 |
|                  |               | 2593 (40620)   | 22.89        | 22.77 | 22.74 |
|                  |               | 2549.5(40185)  | 22.71        | 22.60 | 22.57 |
|                  |               | 2506 (39750)   | 22.78        | 22.64 | 22.60 |
| 50RB-Low (0)     |               | 2680 (41490)   | 22.90        | 22.78 | 22.75 |
|                  |               | 2636.5(41055)  | 22.80        | 22.67 | 22.62 |
|                  |               | 2593 (40620)   | 22.93        | 22.79 | 22.77 |
|                  | 2549.5(40185) | 22.71          | 22.57        | 22.55 |       |
|                  | 2506 (39750)  | 22.81          | 22.65        | 22.60 |       |
| 100RB (0)        | 2680 (41490)  | 22.92          | 22.77        | 22.77 |       |



|  |  |               |       |       |       |
|--|--|---------------|-------|-------|-------|
|  |  | 2636.5(41055) | 22.76 | 22.61 | 22.59 |
|  |  | 2593 (40620)  | 22.88 | 22.74 | 22.71 |
|  |  | 2549.5(40185) | 22.70 | 22.56 | 22.53 |
|  |  | 2506 (39750)  | 22.75 | 22.59 | 22.59 |

**LTE Band66 (Power Level A1)**

| LTE B66      |                 |                 |       |       |       |
|--------------|-----------------|-----------------|-------|-------|-------|
| BANDWIDTH    | Number of RBs   | Frequency       | QPSK  | 16QAM | 64QAM |
| 1.4MHz       | 1RB-High (5)    | 1779.3 (132665) | 23.43 | 22.72 | 21.68 |
|              |                 | 1745 (132322)   | 23.43 | 22.85 | 21.56 |
|              |                 | 1710.7 (131979) | 23.49 | 22.82 | 21.73 |
|              | 1RB-Middle (3)  | 1779.3 (132665) | 23.55 | 22.87 | 21.80 |
|              |                 | 1745 (132322)   | 23.54 | 22.91 | 21.80 |
|              |                 | 1710.7 (131979) | 23.62 | 22.96 | 21.72 |
|              | 1RB-Low (0)     | 1779.3 (132665) | 23.43 | 22.80 | 21.72 |
|              |                 | 1745 (132322)   | 23.44 | 22.74 | 21.68 |
|              |                 | 1710.7 (131979) | 23.52 | 22.87 | 21.73 |
|              | 3RB-High (3)    | 1779.3 (132665) | 23.54 | 22.59 | 21.69 |
|              |                 | 1745 (132322)   | 23.57 | 22.58 | 21.60 |
|              |                 | 1710.7 (131979) | 23.60 | 22.62 | 21.67 |
|              | 3RB-Middle (1)  | 1779.3 (132665) | 23.57 | 22.60 | 21.69 |
|              |                 | 1745 (132322)   | 23.59 | 22.65 | 21.66 |
|              |                 | 1710.7 (131979) | 23.63 | 22.67 | 21.79 |
|              | 3RB-Low (0)     | 1779.3 (132665) | 23.52 | 22.57 | 21.68 |
|              |                 | 1745 (132322)   | 23.54 | 22.59 | 21.65 |
|              |                 | 1710.7 (131979) | 23.58 | 22.65 | 21.66 |
|              | 6RB (0)         | 1779.3 (132665) | 22.56 | 21.70 | 20.56 |
|              |                 | 1745 (132322)   | 22.55 | 21.68 | 20.52 |
|              |                 | 1710.7 (131979) | 22.64 | 21.72 | 20.61 |
| 3MHz         | 1RB-High (14)   | 1778.5 (132657) | 23.55 | 22.87 | 21.79 |
|              |                 | 1745 (132322)   | 23.53 | 22.87 | 21.77 |
|              |                 | 1711.5 (131987) | 23.54 | 22.91 | 21.75 |
|              | 1RB-Middle (7)  | 1778.5 (132657) | 23.65 | 22.95 | 21.80 |
|              |                 | 1745 (132322)   | 23.66 | 22.98 | 21.83 |
|              |                 | 1711.5 (131987) | 23.74 | 23.01 | 21.95 |
|              | 1RB-Low (0)     | 1778.5 (132657) | 23.53 | 22.90 | 21.74 |
|              |                 | 1745 (132322)   | 23.53 | 22.83 | 21.74 |
|              |                 | 1711.5 (131987) | 23.60 | 22.97 | 21.77 |
| 8RB-High (7) | 1778.5 (132657) | 22.55           | 21.61 | 20.58 |       |

|                 |                 |                 |               |       |       |       |
|-----------------|-----------------|-----------------|---------------|-------|-------|-------|
|                 | 8RB-Middle (4)  | 1745 (132322)   | 22.55         | 21.63 | 20.59 |       |
|                 |                 | 1711.5 (131987) | 22.57         | 21.62 | 20.57 |       |
|                 |                 | 1778.5 (132657) | 22.60         | 21.63 | 20.61 |       |
|                 |                 | 1745 (132322)   | 22.60         | 21.63 | 20.61 |       |
|                 |                 | 1711.5 (131987) | 22.64         | 21.69 | 20.65 |       |
|                 |                 | 1778.5 (132657) | 22.59         | 21.64 | 20.60 |       |
|                 | 8RB-Low (0)     | 1745 (132322)   | 22.57         | 21.63 | 20.59 |       |
|                 |                 | 1711.5 (131987) | 22.63         | 21.68 | 20.66 |       |
|                 |                 | 1778.5 (132657) | 22.56         | 21.57 | 20.54 |       |
|                 | 15RB (0)        | 1745 (132322)   | 22.58         | 21.56 | 20.53 |       |
|                 |                 | 1711.5 (131987) | 22.60         | 21.58 | 20.56 |       |
|                 |                 | 1778.5 (132657) | 22.56         | 21.57 | 20.54 |       |
| 5MHz            | 1RB-High (24)   | 1777.5 (132647) | 23.48         | 22.85 | 21.73 |       |
|                 |                 | 1745 (132322)   | 23.47         | 22.82 | 21.67 |       |
|                 |                 | 1712.5 (131997) | 23.49         | 22.85 | 21.68 |       |
|                 | 1RB-Middle (12) | 1777.5 (132647) | 23.61         | 23.02 | 21.88 |       |
|                 |                 | 1745 (132322)   | 23.63         | 22.99 | 21.82 |       |
|                 |                 | 1712.5 (131997) | 23.69         | 23.05 | 21.85 |       |
|                 | 1RB-Low (0)     | 1777.5 (132647) | 23.48         | 22.90 | 21.69 |       |
|                 |                 | 1745 (132322)   | 23.49         | 22.89 | 21.67 |       |
|                 |                 | 1712.5 (131997) | 23.55         | 22.94 | 21.77 |       |
|                 | 12RB-High (13)  | 1777.5 (132647) | 22.58         | 21.58 | 20.58 |       |
|                 |                 | 1745 (132322)   | 22.57         | 21.59 | 20.58 |       |
|                 |                 | 1712.5 (131997) | 22.59         | 21.57 | 20.58 |       |
|                 | 12RB-Middle (6) | 1777.5 (132647) | 22.65         | 21.64 | 20.62 |       |
|                 |                 | 1745 (132322)   | 22.62         | 21.62 | 20.61 |       |
|                 |                 | 1712.5 (131997) | 22.64         | 21.62 | 20.62 |       |
|                 | 12RB-Low (0)    | 1777.5 (132647) | 22.65         | 21.64 | 20.63 |       |
|                 |                 | 1745 (132322)   | 22.58         | 21.58 | 20.58 |       |
|                 |                 | 1712.5 (131997) | 22.58         | 21.58 | 20.57 |       |
|                 | 25RB (0)        | 1777.5 (132647) | 22.60         | 21.61 | 20.61 |       |
|                 |                 | 1745 (132322)   | 22.60         | 21.60 | 20.58 |       |
|                 |                 | 1712.5 (131997) | 22.61         | 21.60 | 20.55 |       |
|                 | 10MHz           | 1RB-High (49)   | 1775 (132622) | 23.47 | 22.86 | 21.72 |
|                 |                 |                 | 1745 (132322) | 23.51 | 22.86 | 21.75 |
|                 |                 |                 | 1715 (132022) | 23.48 | 22.79 | 21.64 |
| 1RB-Middle (24) |                 | 1775 (132622)   | 23.61         | 22.99 | 21.78 |       |
|                 |                 | 1745 (132322)   | 23.61         | 22.94 | 21.77 |       |
|                 |                 | 1715 (132022)   | 23.59         | 22.82 | 21.84 |       |
| 1RB-Low (0)     |                 | 1775 (132622)   | 23.50         | 22.91 | 21.72 |       |
|                 |                 | 1745 (132322)   | 23.55         | 22.82 | 21.69 |       |

|          |                  |                 |       |       |       |
|----------|------------------|-----------------|-------|-------|-------|
|          |                  | 1715 (132022)   | 23.58 | 22.90 | 21.80 |
|          | 25RB-High (25)   | 1775 (132622)   | 22.57 | 21.60 | 20.55 |
|          |                  | 1745 (132322)   | 22.66 | 21.66 | 20.64 |
|          |                  | 1715 (132022)   | 22.63 | 21.60 | 20.60 |
|          | 25RB-Middle (12) | 1775 (132622)   | 22.63 | 21.63 | 20.63 |
|          |                  | 1745 (132322)   | 22.66 | 21.65 | 20.62 |
|          |                  | 1715 (132022)   | 22.66 | 21.65 | 20.63 |
|          | 25RB-Low (0)     | 1775 (132622)   | 22.68 | 21.69 | 20.69 |
|          |                  | 1745 (132322)   | 22.68 | 21.66 | 20.64 |
|          |                  | 1715 (132022)   | 22.65 | 21.64 | 20.60 |
|          | 50RB (0)         | 1775 (132622)   | 22.62 | 21.63 | 20.60 |
|          |                  | 1745 (132322)   | 22.68 | 21.69 | 20.67 |
|          |                  | 1715 (132022)   | 22.64 | 21.66 | 20.63 |
| 15MHz    | 1RB-High (74)    | 1772.5 (132597) | 23.49 | 22.85 | 21.71 |
|          |                  | 1745 (132322)   | 23.53 | 22.90 | 21.73 |
|          |                  | 1717.5 (132047) | 23.55 | 22.77 | 21.65 |
|          | 1RB-Middle (37)  | 1772.5 (132597) | 23.53 | 22.87 | 21.77 |
|          |                  | 1745 (132322)   | 23.53 | 22.87 | 21.71 |
|          |                  | 1717.5 (132047) | 23.54 | 22.74 | 21.64 |
|          | 1RB-Low (0)      | 1772.5 (132597) | 23.53 | 22.95 | 21.74 |
|          |                  | 1745 (132322)   | 23.54 | 22.92 | 21.71 |
|          |                  | 1717.5 (132047) | 23.59 | 22.86 | 21.81 |
|          | 36RB-High (38)   | 1772.5 (132597) | 22.58 | 21.57 | 20.53 |
|          |                  | 1745 (132322)   | 22.67 | 21.63 | 20.63 |
|          |                  | 1717.5 (132047) | 22.65 | 21.62 | 20.62 |
|          | 36RB-Middle (19) | 1772.5 (132597) | 22.67 | 21.61 | 20.63 |
|          |                  | 1745 (132322)   | 22.69 | 21.63 | 20.65 |
|          |                  | 1717.5 (132047) | 22.63 | 21.60 | 20.59 |
|          | 36RB-Low (0)     | 1772.5 (132597) | 22.68 | 21.65 | 20.63 |
|          |                  | 1745 (132322)   | 22.66 | 21.64 | 20.64 |
|          |                  | 1717.5 (132047) | 22.65 | 21.60 | 20.59 |
| 75RB (0) | 1772.5 (132597)  | 22.62           | 21.62 | 20.60 |       |
|          | 1745 (132322)    | 22.68           | 21.68 | 20.65 |       |
|          | 1717.5 (132047)  | 22.64           | 21.61 | 20.61 |       |
| 20MHz    | 1RB-High (99)    | 1770 (132572)   | 23.48 | 22.79 | 21.80 |
|          |                  | 1745 (132322)   | 23.47 | 22.76 | 21.66 |
|          |                  | 1720 (132072)   | 23.51 | 22.71 | 21.68 |
|          | 1RB-Middle (50)  | 1770 (132572)   | 23.65 | 22.90 | 21.84 |
|          |                  | 1745 (132322)   | 23.68 | 22.87 | 21.87 |
|          |                  | 1720 (132072)   | 23.61 | 22.83 | 21.80 |

|  |                  |               |       |       |       |
|--|------------------|---------------|-------|-------|-------|
|  | 1RB-Low (0)      | 1770 (132572) | 23.52 | 22.88 | 21.75 |
|  |                  | 1745 (132322) | 23.52 | 22.84 | 21.71 |
|  |                  | 1720 (132072) | 23.56 | 22.97 | 21.80 |
|  | 50RB-High (50)   | 1770 (132572) | 22.54 | 21.53 | 20.49 |
|  |                  | 1745 (132322) | 22.61 | 21.64 | 20.63 |
|  |                  | 1720 (132072) | 22.60 | 21.61 | 20.58 |
|  | 50RB-Middle (25) | 1770 (132572) | 22.64 | 21.64 | 20.63 |
|  |                  | 1745 (132322) | 22.68 | 21.69 | 20.66 |
|  |                  | 1720 (132072) | 22.65 | 21.62 | 20.63 |
|  | 50RB-Low (0)     | 1770 (132572) | 22.65 | 21.66 | 20.63 |
|  |                  | 1745 (132322) | 22.71 | 21.71 | 20.69 |
|  |                  | 1720 (132072) | 22.61 | 21.59 | 20.57 |
|  | 100RB (0)        | 1770 (132572) | 22.60 | 21.59 | 20.58 |
|  |                  | 1745 (132322) | 22.65 | 21.64 | 20.64 |
|  |                  | 1720 (132072) | 22.57 | 21.57 | 20.58 |

**LTE Band66 (Power Level B1)**

| LTE B66   |                |                 |       |       |       |
|-----------|----------------|-----------------|-------|-------|-------|
| BANDWIDTH | Number of RBs  | Frequency       | QPSK  | 16QAM | 64QAM |
| 1.4MHz    | 1RB-High (5)   | 1779.3 (132665) | 22.16 | 22.34 | 21.71 |
|           |                | 1745 (132322)   | 22.22 | 22.30 | 21.83 |
|           |                | 1710.7 (131979) | 22.13 | 22.11 | 21.65 |
|           | 1RB-Middle (3) | 1779.3 (132665) | 22.15 | 22.32 | 22.05 |
|           |                | 1745 (132322)   | 22.29 | 22.30 | 21.83 |
|           |                | 1710.7 (131979) | 22.28 | 22.45 | 22.00 |
|           | 1RB-Low (0)    | 1779.3 (132665) | 22.26 | 22.23 | 21.82 |
|           |                | 1745 (132322)   | 22.23 | 22.36 | 21.83 |
|           |                | 1710.7 (131979) | 22.31 | 22.31 | 22.01 |
|           | 3RB-High (3)   | 1779.3 (132665) | 22.04 | 21.41 | 20.74 |
|           |                | 1745 (132322)   | 22.19 | 21.53 | 20.80 |
|           |                | 1710.7 (131979) | 22.06 | 21.49 | 20.63 |
|           | 3RB-Middle (1) | 1779.3 (132665) | 22.14 | 21.66 | 20.76 |
|           |                | 1745 (132322)   | 22.32 | 21.44 | 20.65 |
|           |                | 1710.7 (131979) | 22.35 | 21.54 | 20.81 |
|           | 3RB-Low (0)    | 1779.3 (132665) | 22.08 | 21.56 | 20.78 |
|           |                | 1745 (132322)   | 22.31 | 21.66 | 20.85 |
|           |                | 1710.7 (131979) | 22.21 | 21.49 | 20.54 |
|           | 6RB (0)        | 1779.3 (132665) | 22.21 | 21.39 | 20.75 |
|           |                | 1745 (132322)   | 22.34 | 21.46 | 20.58 |

|                 |                 |                 |       |       |       |
|-----------------|-----------------|-----------------|-------|-------|-------|
|                 |                 | 1710.7 (131979) | 22.27 | 21.46 | 20.74 |
| 3MHz            | 1RB-High (14)   | 1778.5 (132657) | 22.14 | 22.28 | 21.75 |
|                 |                 | 1745 (132322)   | 22.15 | 22.25 | 21.79 |
|                 |                 | 1711.5 (131987) | 22.23 | 22.09 | 21.79 |
|                 | 1RB-Middle (7)  | 1778.5 (132657) | 22.20 | 22.47 | 22.01 |
|                 |                 | 1745 (132322)   | 22.30 | 22.40 | 21.92 |
|                 |                 | 1711.5 (131987) | 22.35 | 22.27 | 22.03 |
|                 | 1RB-Low (0)     | 1778.5 (132657) | 22.21 | 22.40 | 21.88 |
|                 |                 | 1745 (132322)   | 22.24 | 22.24 | 21.80 |
|                 |                 | 1711.5 (131987) | 22.22 | 22.41 | 21.82 |
|                 | 8RB-High (7)    | 1778.5 (132657) | 22.03 | 21.50 | 20.68 |
|                 |                 | 1745 (132322)   | 22.20 | 21.45 | 20.77 |
|                 |                 | 1711.5 (131987) | 22.18 | 21.40 | 20.79 |
|                 | 8RB-Middle (4)  | 1778.5 (132657) | 22.37 | 21.55 | 20.72 |
|                 |                 | 1745 (132322)   | 22.30 | 21.68 | 20.67 |
|                 |                 | 1711.5 (131987) | 22.12 | 21.51 | 20.68 |
|                 | 8RB-Low (0)     | 1778.5 (132657) | 22.16 | 21.61 | 20.68 |
|                 |                 | 1745 (132322)   | 22.19 | 21.70 | 20.79 |
|                 |                 | 1711.5 (131987) | 22.31 | 21.50 | 20.53 |
|                 | 15RB (0)        | 1778.5 (132657) | 22.08 | 21.52 | 20.75 |
|                 |                 | 1745 (132322)   | 22.31 | 21.57 | 20.58 |
| 1711.5 (131987) |                 | 22.18           | 21.54 | 20.63 |       |
| 5MHz            | 1RB-High (24)   | 1777.5 (132647) | 22.21 | 22.22 | 21.88 |
|                 |                 | 1745 (132322)   | 22.12 | 22.34 | 21.84 |
|                 |                 | 1712.5 (131997) | 22.20 | 22.27 | 21.66 |
|                 | 1RB-Middle (12) | 1777.5 (132647) | 22.28 | 22.31 | 22.11 |
|                 |                 | 1745 (132322)   | 22.35 | 22.35 | 21.80 |
|                 |                 | 1712.5 (131997) | 22.36 | 22.36 | 21.99 |
|                 | 1RB-Low (0)     | 1777.5 (132647) | 22.27 | 22.18 | 21.86 |
|                 |                 | 1745 (132322)   | 22.45 | 22.29 | 21.85 |
|                 |                 | 1712.5 (131997) | 22.21 | 22.24 | 22.07 |
|                 | 12RB-High (13)  | 1777.5 (132647) | 22.03 | 21.44 | 20.58 |
|                 |                 | 1745 (132322)   | 22.20 | 21.46 | 20.75 |
|                 |                 | 1712.5 (131997) | 22.10 | 21.47 | 20.75 |
|                 | 12RB-Middle (6) | 1777.5 (132647) | 22.15 | 21.57 | 20.71 |
|                 |                 | 1745 (132322)   | 22.36 | 21.58 | 20.78 |
|                 |                 | 1712.5 (131997) | 22.14 | 21.55 | 20.71 |
|                 | 12RB-Low (0)    | 1777.5 (132647) | 22.16 | 21.55 | 20.79 |
|                 |                 | 1745 (132322)   | 22.41 | 21.66 | 20.88 |
|                 |                 | 1712.5 (131997) | 22.29 | 21.48 | 20.63 |

|                  |                  |                 |                 |       |       |       |
|------------------|------------------|-----------------|-----------------|-------|-------|-------|
|                  | 25RB (0)         | 1777.5 (132647) | 22.10           | 21.44 | 20.79 |       |
|                  |                  | 1745 (132322)   | 22.27           | 21.43 | 20.71 |       |
|                  |                  | 1712.5 (131997) | 22.22           | 21.52 | 20.70 |       |
| 10MHz            | 1RB-High (49)    | 1775 (132622)   | 22.06           | 22.20 | 21.89 |       |
|                  |                  | 1745 (132322)   | 22.00           | 22.24 | 21.84 |       |
|                  |                  | 1715 (132022)   | 22.05           | 22.25 | 21.65 |       |
|                  | 1RB-Middle (24)  | 1775 (132622)   | 22.32           | 22.46 | 22.01 |       |
|                  |                  | 1745 (132322)   | 22.26           | 22.40 | 22.00 |       |
|                  |                  | 1715 (132022)   | 22.27           | 22.30 | 22.06 |       |
|                  | 1RB-Low (0)      | 1775 (132622)   | 22.31           | 22.37 | 21.79 |       |
|                  |                  | 1745 (132322)   | 22.33           | 22.21 | 21.92 |       |
|                  |                  | 1715 (132022)   | 22.23           | 22.40 | 21.86 |       |
|                  | 25RB-High (25)   | 1775 (132622)   | 22.03           | 21.39 | 20.57 |       |
|                  |                  | 1745 (132322)   | 22.25           | 21.39 | 20.70 |       |
|                  |                  | 1715 (132022)   | 22.24           | 21.42 | 20.82 |       |
|                  | 25RB-Middle (12) | 1775 (132622)   | 22.35           | 21.59 | 20.70 |       |
|                  |                  | 1745 (132322)   | 22.22           | 21.46 | 20.70 |       |
|                  |                  | 1715 (132022)   | 22.17           | 21.58 | 20.85 |       |
|                  | 25RB-Low (0)     | 1775 (132622)   | 22.18           | 21.50 | 20.75 |       |
|                  |                  | 1745 (132322)   | 22.44           | 21.71 | 20.76 |       |
|                  |                  | 1715 (132022)   | 22.13           | 21.53 | 20.75 |       |
|                  | 50RB (0)         | 1775 (132622)   | 22.14           | 21.53 | 20.63 |       |
|                  |                  | 1745 (132322)   | 22.33           | 21.64 | 20.75 |       |
|                  |                  | 1715 (132022)   | 22.10           | 21.40 | 20.60 |       |
|                  | 15MHz            | 1RB-High (74)   | 1772.5 (132597) | 22.23 | 22.14 | 21.86 |
|                  |                  |                 | 1745 (132322)   | 22.15 | 22.19 | 21.86 |
|                  |                  |                 | 1717.5 (132047) | 22.03 | 22.21 | 21.72 |
| 1RB-Middle (37)  |                  | 1772.5 (132597) | 22.23           | 22.35 | 22.11 |       |
|                  |                  | 1745 (132322)   | 22.34           | 22.31 | 21.96 |       |
|                  |                  | 1717.5 (132047) | 22.21           | 22.35 | 21.96 |       |
| 1RB-Low (0)      |                  | 1772.5 (132597) | 22.39           | 22.36 | 21.96 |       |
|                  |                  | 1745 (132322)   | 22.47           | 22.31 | 21.86 |       |
|                  |                  | 1717.5 (132047) | 22.29           | 22.40 | 21.91 |       |
| 36RB-High (38)   |                  | 1772.5 (132597) | 22.11           | 21.41 | 20.61 |       |
|                  |                  | 1745 (132322)   | 22.22           | 21.37 | 20.76 |       |
|                  |                  | 1717.5 (132047) | 22.15           | 21.43 | 20.67 |       |
| 36RB-Middle (19) |                  | 1772.5 (132597) | 22.18           | 21.65 | 20.67 |       |
|                  |                  | 1745 (132322)   | 22.18           | 21.62 | 20.87 |       |
|                  |                  | 1717.5 (132047) | 22.15           | 21.60 | 20.68 |       |
| 36RB-Low (0)     |                  | 1772.5 (132597) | 22.08           | 21.43 | 20.65 |       |

|       |                  |                 |       |       |       |
|-------|------------------|-----------------|-------|-------|-------|
|       | 75RB (0)         | 1745 (132322)   | 22.34 | 21.74 | 20.87 |
|       |                  | 1717.5 (132047) | 22.28 | 21.39 | 20.54 |
|       |                  | 1772.5 (132597) | 22.06 | 21.56 | 20.57 |
|       |                  | 1745 (132322)   | 22.20 | 21.45 | 20.58 |
|       |                  | 1717.5 (132047) | 22.17 | 21.55 | 20.73 |
| 20MHz | 1RB-High (99)    | 1770 (132572)   | 22.24 | 22.31 | 21.90 |
|       |                  | 1745 (132322)   | 22.19 | 22.39 | 21.90 |
|       |                  | 1720 (132072)   | 22.22 | 22.27 | 21.84 |
|       | 1RB-Middle (50)  | 1770 (132572)   | 22.31 | 22.49 | 22.09 |
|       |                  | 1745 (132322)   | 22.31 | 22.41 | 21.99 |
|       |                  | 1720 (132072)   | 22.33 | 22.43 | 22.04 |
|       | 1RB-Low (0)      | 1770 (132572)   | 22.38 | 22.37 | 21.97 |
|       |                  | 1745 (132322)   | 22.42 | 22.33 | 21.99 |
|       |                  | 1720 (132072)   | 22.37 | 22.44 | 22.02 |
|       | 50RB-High (50)   | 1770 (132572)   | 22.18 | 21.53 | 20.69 |
|       |                  | 1745 (132322)   | 22.25 | 21.56 | 20.76 |
|       |                  | 1720 (132072)   | 22.26 | 21.60 | 20.77 |
|       | 50RB-Middle (25) | 1770 (132572)   | 22.32 | 21.65 | 20.82 |
|       |                  | 1745 (132322)   | 22.33 | 21.63 | 20.82 |
|       |                  | 1720 (132072)   | 22.31 | 21.64 | 20.81 |
|       | 50RB-Low (0)     | 1770 (132572)   | 22.36 | 21.62 | 20.79 |
|       |                  | 1745 (132322)   | 22.39 | 21.69 | 20.84 |
|       |                  | 1720 (132072)   | 22.35 | 21.59 | 20.73 |
|       | 100RB (0)        | 1770 (132572)   | 22.26 | 21.56 | 20.75 |
|       |                  | 1745 (132322)   | 22.31 | 21.61 | 20.78 |
|       |                  | 1720 (132072)   | 22.37 | 21.58 | 20.76 |

**LTE Band66 (Power Level C1)**

| LTE B66   |                |                 |       |       |       |
|-----------|----------------|-----------------|-------|-------|-------|
| BANDWIDTH | Number of RBs  | Frequency       | QPSK  | 16QAM | 64QAM |
| 1.4MHz    | 1RB-High (5)   | 1779.3 (132665) | 17.61 | 17.90 | 17.78 |
|           |                | 1745 (132322)   | 17.53 | 17.91 | 17.78 |
|           |                | 1710.7 (131979) | 17.57 | 17.85 | 17.77 |
|           | 1RB-Middle (3) | 1779.3 (132665) | 17.74 | 18.01 | 17.84 |
|           |                | 1745 (132322)   | 17.69 | 18.11 | 17.93 |
|           |                | 1710.7 (131979) | 17.69 | 17.83 | 17.93 |
|           | 1RB-Low (0)    | 1779.3 (132665) | 17.61 | 17.84 | 17.78 |
|           |                | 1745 (132322)   | 17.59 | 17.84 | 17.85 |
|           |                | 1710.7 (131979) | 17.66 | 18.00 | 17.94 |

|      |                 |                 |       |       |       |
|------|-----------------|-----------------|-------|-------|-------|
|      | 3RB-High (3)    | 1779.3 (132665) | 17.53 | 17.52 | 17.48 |
|      |                 | 1745 (132322)   | 17.64 | 17.63 | 17.72 |
|      |                 | 1710.7 (131979) | 17.57 | 17.65 | 17.69 |
|      | 3RB-Middle (1)  | 1779.3 (132665) | 17.75 | 17.64 | 17.70 |
|      |                 | 1745 (132322)   | 17.70 | 17.64 | 17.61 |
|      |                 | 1710.7 (131979) | 17.77 | 17.64 | 17.68 |
|      | 3RB-Low (0)     | 1779.3 (132665) | 17.60 | 17.61 | 17.64 |
|      |                 | 1745 (132322)   | 17.80 | 17.66 | 17.66 |
|      |                 | 1710.7 (131979) | 17.56 | 17.57 | 17.65 |
|      | 6RB (0)         | 1779.3 (132665) | 17.51 | 17.62 | 17.66 |
|      |                 | 1745 (132322)   | 17.58 | 17.70 | 17.56 |
|      |                 | 1710.7 (131979) | 17.62 | 17.56 | 17.60 |
| 3MHz | 1RB-High (14)   | 1778.5 (132657) | 17.51 | 17.92 | 17.72 |
|      |                 | 1745 (132322)   | 17.52 | 17.87 | 17.81 |
|      |                 | 1711.5 (131987) | 17.60 | 17.85 | 17.74 |
|      | 1RB-Middle (7)  | 1778.5 (132657) | 17.63 | 18.04 | 17.97 |
|      |                 | 1745 (132322)   | 17.71 | 18.09 | 17.85 |
|      |                 | 1711.5 (131987) | 17.71 | 17.87 | 17.97 |
|      | 1RB-Low (0)     | 1778.5 (132657) | 17.58 | 17.89 | 17.64 |
|      |                 | 1745 (132322)   | 17.55 | 17.91 | 17.74 |
|      |                 | 1711.5 (131987) | 17.62 | 18.03 | 17.99 |
|      | 8RB-High (7)    | 1778.5 (132657) | 17.62 | 17.64 | 17.54 |
|      |                 | 1745 (132322)   | 17.69 | 17.69 | 17.60 |
|      |                 | 1711.5 (131987) | 17.58 | 17.64 | 17.71 |
|      | 8RB-Middle (4)  | 1778.5 (132657) | 17.77 | 17.68 | 17.64 |
|      |                 | 1745 (132322)   | 17.67 | 17.68 | 17.66 |
|      |                 | 1711.5 (131987) | 17.71 | 17.66 | 17.68 |
|      | 8RB-Low (0)     | 1778.5 (132657) | 17.67 | 17.67 | 17.73 |
|      |                 | 1745 (132322)   | 17.79 | 17.67 | 17.75 |
|      |                 | 1711.5 (131987) | 17.66 | 17.61 | 17.54 |
|      | 15RB (0)        | 1778.5 (132657) | 17.65 | 17.58 | 17.51 |
|      |                 | 1745 (132322)   | 17.72 | 17.61 | 17.64 |
|      |                 | 1711.5 (131987) | 17.59 | 17.69 | 17.67 |
| 5MHz | 1RB-High (24)   | 1777.5 (132647) | 17.52 | 17.77 | 17.77 |
|      |                 | 1745 (132322)   | 17.48 | 17.86 | 17.72 |
|      |                 | 1712.5 (131997) | 17.61 | 17.79 | 17.71 |
|      | 1RB-Middle (12) | 1777.5 (132647) | 17.62 | 18.12 | 17.83 |
|      |                 | 1745 (132322)   | 17.73 | 18.00 | 17.96 |
|      |                 | 1712.5 (131997) | 17.78 | 17.83 | 17.96 |
|      | 1RB-Low (0)     | 1777.5 (132647) | 17.51 | 17.84 | 17.68 |



|                  |                 |                 |                 |       |       |       |
|------------------|-----------------|-----------------|-----------------|-------|-------|-------|
|                  | 12RB-High (13)  | 1745 (132322)   | 17.64           | 17.80 | 17.79 |       |
|                  |                 | 1712.5 (131997) | 17.64           | 18.06 | 17.93 |       |
|                  |                 | 1777.5 (132647) | 17.51           | 17.51 | 17.52 |       |
|                  | 12RB-Middle (6) | 1745 (132322)   | 17.63           | 17.68 | 17.57 |       |
|                  |                 | 1712.5 (131997) | 17.64           | 17.65 | 17.68 |       |
|                  |                 | 1777.5 (132647) | 17.72           | 17.75 | 17.60 |       |
|                  | 12RB-Low (0)    | 1745 (132322)   | 17.63           | 17.61 | 17.62 |       |
|                  |                 | 1712.5 (131997) | 17.68           | 17.62 | 17.68 |       |
|                  |                 | 1777.5 (132647) | 17.63           | 17.72 | 17.68 |       |
|                  | 25RB (0)        | 1745 (132322)   | 17.81           | 17.71 | 17.75 |       |
|                  |                 | 1712.5 (131997) | 17.57           | 17.55 | 17.66 |       |
|                  |                 | 1777.5 (132647) | 17.62           | 17.54 | 17.56 |       |
|                  | 10MHz           | 1RB-High (49)   | 1745 (132322)   | 17.64 | 17.64 | 17.64 |
|                  |                 |                 | 1712.5 (131997) | 17.68 | 17.62 | 17.67 |
|                  |                 |                 | 1775 (132622)   | 17.47 | 17.90 | 17.73 |
| 1RB-Middle (24)  |                 | 1745 (132322)   | 17.59           | 17.99 | 17.75 |       |
|                  |                 | 1715 (132022)   | 17.64           | 17.90 | 17.71 |       |
|                  |                 | 1775 (132622)   | 17.61           | 18.09 | 17.82 |       |
| 1RB-Low (0)      |                 | 1745 (132322)   | 17.69           | 17.99 | 17.95 |       |
|                  |                 | 1715 (132022)   | 17.68           | 17.94 | 17.96 |       |
|                  |                 | 1775 (132622)   | 17.62           | 17.82 | 17.73 |       |
| 25RB-High (25)   |                 | 1745 (132322)   | 17.64           | 17.89 | 17.76 |       |
|                  |                 | 1715 (132022)   | 17.64           | 18.07 | 17.86 |       |
|                  |                 | 1775 (132622)   | 17.47           | 17.50 | 17.50 |       |
| 25RB-Middle (12) |                 | 1745 (132322)   | 17.54           | 17.70 | 17.59 |       |
|                  |                 | 1715 (132022)   | 17.56           | 17.63 | 17.58 |       |
|                  |                 | 1775 (132622)   | 17.80           | 17.63 | 17.56 |       |
| 25RB-Low (0)     |                 | 1745 (132322)   | 17.74           | 17.68 | 17.72 |       |
|                  |                 | 1715 (132022)   | 17.68           | 17.75 | 17.60 |       |
|                  |                 | 1775 (132622)   | 17.61           | 17.63 | 17.69 |       |
| 50RB (0)         |                 | 1745 (132322)   | 17.77           | 17.78 | 17.65 |       |
|                  |                 | 1715 (132022)   | 17.66           | 17.66 | 17.61 |       |
|                  |                 | 1775 (132622)   | 17.65           | 17.67 | 17.52 |       |
| 15MHz            |                 | 1RB-High (74)   | 1745 (132322)   | 17.60 | 17.61 | 17.59 |
|                  |                 |                 | 1715 (132022)   | 17.60 | 17.57 | 17.62 |
|                  |                 |                 | 1772.5 (132597) | 17.61 | 17.79 | 17.85 |
|                  | 1RB-Middle (37) | 1745 (132322)   | 17.55           | 17.92 | 17.71 |       |
|                  |                 | 1717.5 (132047) | 17.53           | 17.86 | 17.72 |       |
|                  |                 | 1772.5 (132597) | 17.74           | 18.06 | 17.86 |       |
|                  |                 | 1745 (132322)   | 17.71           | 18.10 | 17.95 |       |

|           |                  |                 |       |       |       |
|-----------|------------------|-----------------|-------|-------|-------|
|           |                  | 1717.5 (132047) | 17.69 | 17.94 | 17.91 |
|           | 1RB-Low (0)      | 1772.5 (132597) | 17.52 | 17.94 | 17.74 |
|           |                  | 1745 (132322)   | 17.56 | 17.85 | 17.83 |
|           |                  | 1717.5 (132047) | 17.73 | 18.06 | 17.99 |
|           | 36RB-High (38)   | 1772.5 (132597) | 17.60 | 17.65 | 17.61 |
|           |                  | 1745 (132322)   | 17.61 | 17.69 | 17.66 |
|           |                  | 1717.5 (132047) | 17.55 | 17.64 | 17.58 |
|           | 36RB-Middle (19) | 1772.5 (132597) | 17.67 | 17.75 | 17.65 |
|           |                  | 1745 (132322)   | 17.69 | 17.71 | 17.62 |
|           |                  | 1717.5 (132047) | 17.71 | 17.77 | 17.68 |
|           | 36RB-Low (0)     | 1772.5 (132597) | 17.63 | 17.61 | 17.63 |
|           |                  | 1745 (132322)   | 17.79 | 17.68 | 17.71 |
|           |                  | 1717.5 (132047) | 17.56 | 17.57 | 17.60 |
|           | 75RB (0)         | 1772.5 (132597) | 17.58 | 17.61 | 17.61 |
|           |                  | 1745 (132322)   | 17.67 | 17.57 | 17.61 |
|           |                  | 1717.5 (132047) | 17.57 | 17.59 | 17.66 |
| 20MHz     | 1RB-High (99)    | 1770 (132572)   | 17.56 | 17.87 | 17.80 |
|           |                  | 1745 (132322)   | 17.55 | 17.95 | 17.81 |
|           |                  | 1720 (132072)   | 17.63 | 17.89 | 17.81 |
|           | 1RB-Middle (50)  | 1770 (132572)   | 17.69 | 18.07 | 17.92 |
|           |                  | 1745 (132322)   | 17.79 | 18.09 | 17.95 |
|           |                  | 1720 (132072)   | 17.78 | 17.93 | 17.99 |
|           | 1RB-Low (0)      | 1770 (132572)   | 17.57 | 17.92 | 17.73 |
|           |                  | 1745 (132322)   | 17.62 | 17.90 | 17.84 |
|           |                  | 1720 (132072)   | 17.71 | 18.09 | 17.94 |
|           | 50RB-High (50)   | 1770 (132572)   | 17.57 | 17.60 | 17.57 |
|           |                  | 1745 (132322)   | 17.64 | 17.65 | 17.67 |
|           |                  | 1720 (132072)   | 17.65 | 17.65 | 17.66 |
|           | 50RB-Middle (25) | 1770 (132572)   | 17.75 | 17.70 | 17.66 |
|           |                  | 1745 (132322)   | 17.71 | 17.71 | 17.70 |
|           |                  | 1720 (132072)   | 17.74 | 17.72 | 17.68 |
|           | 50RB-Low (0)     | 1770 (132572)   | 17.66 | 17.68 | 17.68 |
|           |                  | 1745 (132322)   | 17.78 | 17.76 | 17.74 |
|           |                  | 1720 (132072)   | 17.63 | 17.64 | 17.62 |
| 100RB (0) | 1770 (132572)    | 17.60           | 17.63 | 17.61 |       |
|           | 1745 (132322)    | 17.67           | 17.65 | 17.63 |       |
|           | 1720 (132072)    | 17.65           | 17.65 | 17.63 |       |

## LTE Band71 (Power Level A1/B1/C1)

| LTE B71   |                  |                |       |       |       |
|-----------|------------------|----------------|-------|-------|-------|
| BANDWIDTH | Number of RBs    | Frequency      | QPSK  | 16QAM | 64QAM |
| 5MHz      | 1RB-High (24)    | 695.5 (133447) | 23.76 | 22.92 | 21.88 |
|           |                  | 680.5 (133297) | 23.74 | 23.04 | 21.90 |
|           |                  | 665.5 (133147) | 23.78 | 23.06 | 22.01 |
|           | 1RB-Middle (12)  | 695.5 (133447) | 23.91 | 23.16 | 22.02 |
|           |                  | 680.5 (133297) | 23.97 | 23.13 | 22.11 |
|           |                  | 665.5 (133147) | 23.88 | 23.15 | 22.01 |
|           | 1RB-Low (0)      | 695.5 (133447) | 23.76 | 23.07 | 21.87 |
|           |                  | 680.5 (133297) | 23.77 | 22.94 | 21.97 |
|           |                  | 665.5 (133147) | 23.86 | 23.12 | 21.99 |
|           | 12RB-High (13)   | 695.5 (133447) | 22.88 | 21.85 | 20.87 |
|           |                  | 680.5 (133297) | 22.78 | 21.73 | 20.78 |
|           |                  | 665.5 (133147) | 22.85 | 21.86 | 20.88 |
|           | 12RB-Middle (6)  | 695.5 (133447) | 22.83 | 21.82 | 20.82 |
|           |                  | 680.5 (133297) | 22.85 | 21.79 | 20.87 |
|           |                  | 665.5 (133147) | 22.87 | 21.87 | 20.90 |
|           | 12RB-Low (0)     | 695.5 (133447) | 22.78 | 21.75 | 20.89 |
|           |                  | 680.5 (133297) | 22.81 | 21.76 | 20.79 |
|           |                  | 665.5 (133147) | 22.84 | 21.80 | 20.83 |
|           | 25RB (0)         | 695.5 (133447) | 22.86 | 21.85 | 20.92 |
|           |                  | 680.5 (133297) | 22.83 | 21.78 | 20.82 |
|           |                  | 665.5 (133147) | 22.87 | 21.87 | 20.85 |
| 10MHz     | 1RB-High (49)    | 693 (132422)   | 23.81 | 23.01 | 21.85 |
|           |                  | 680.5 (133297) | 23.73 | 23.05 | 21.83 |
|           |                  | 668 (133172)   | 23.78 | 23.07 | 21.94 |
|           | 1RB-Middle (24)  | 693 (132422)   | 23.86 | 23.18 | 21.99 |
|           |                  | 680.5 (133297) | 23.87 | 23.15 | 22.02 |
|           |                  | 668 (133172)   | 23.90 | 23.17 | 22.05 |
|           | 1RB-Low (0)      | 693 (132422)   | 23.79 | 23.05 | 21.86 |
|           |                  | 680.5 (133297) | 23.79 | 23.05 | 21.96 |
|           |                  | 668 (133172)   | 23.89 | 23.04 | 21.94 |
|           | 25RB-High (25)   | 693 (132422)   | 22.90 | 21.90 | 20.87 |
|           |                  | 680.5 (133297) | 22.85 | 21.81 | 20.84 |
|           |                  | 668 (133172)   | 22.93 | 21.95 | 20.95 |
|           | 25RB-Middle (12) | 693 (132422)   | 22.84 | 21.84 | 20.84 |
|           |                  | 680.5 (133297) | 22.82 | 21.82 | 20.85 |
|           |                  | 668 (133172)   | 22.86 | 21.87 | 20.87 |

|                  |                  |                |              |       |       |       |
|------------------|------------------|----------------|--------------|-------|-------|-------|
|                  | 25RB-Low (0)     | 693 (132422)   | 22.93        | 21.94 | 20.95 |       |
|                  |                  | 680.5 (133297) | 22.90        | 21.85 | 20.89 |       |
|                  |                  | 668 (133172)   | 22.90        | 21.86 | 20.90 |       |
|                  | 50RB (0)         | 693 (132422)   | 22.94        | 21.91 | 20.91 |       |
|                  |                  | 680.5 (133297) | 22.90        | 21.88 | 20.91 |       |
|                  |                  | 668 (133172)   | 22.94        | 21.90 | 20.92 |       |
| 15MHz            | 1RB-High (74)    | 690.5 (133397) | 23.77        | 23.07 | 21.96 |       |
|                  |                  | 680.5 (133297) | 23.73        | 23.08 | 21.90 |       |
|                  |                  | 670.5 (133197) | 23.74        | 23.07 | 21.82 |       |
|                  | 1RB-Middle (37)  | 690.5 (133397) | 23.78        | 23.06 | 21.86 |       |
|                  |                  | 680.5 (133297) | 23.79        | 23.04 | 21.91 |       |
|                  |                  | 670.5 (133197) | 23.83        | 23.16 | 21.99 |       |
|                  | 1RB-Low (0)      | 690.5 (133397) | 23.78        | 23.07 | 21.91 |       |
|                  |                  | 680.5 (133297) | 23.86        | 23.14 | 22.03 |       |
|                  |                  | 670.5 (133197) | 23.90        | 23.13 | 22.00 |       |
|                  | 36RB-High (38)   | 690.5 (133397) | 22.88        | 21.84 | 20.87 |       |
|                  |                  | 680.5 (133297) | 22.86        | 21.80 | 20.85 |       |
|                  |                  | 670.5 (133197) | 22.87        | 21.80 | 20.87 |       |
|                  | 36RB-Middle (19) | 690.5 (133397) | 22.85        | 21.80 | 20.84 |       |
|                  |                  | 680.5 (133297) | 22.86        | 21.78 | 20.84 |       |
|                  |                  | 670.5 (133197) | 22.90        | 21.83 | 20.92 |       |
|                  | 36RB-Low (0)     | 690.5 (133397) | 22.86        | 21.83 | 20.86 |       |
|                  |                  | 680.5 (133297) | 22.91        | 21.86 | 20.92 |       |
|                  |                  | 670.5 (133197) | 22.86        | 21.84 | 20.88 |       |
|                  | 75RB (0)         | 690.5 (133397) | 22.88        | 21.86 | 20.86 |       |
|                  |                  | 680.5 (133297) | 22.89        | 21.86 | 20.90 |       |
|                  |                  | 670.5 (133197) | 22.83        | 21.82 | 20.84 |       |
|                  | 20MHz            | 1RB-High (99)  | 688 (133372) | 23.73 | 22.98 | 21.82 |
|                  |                  |                | 683 (133322) | 23.72 | 22.88 | 21.82 |
|                  |                  |                | 673 (133222) | 23.70 | 22.94 | 21.76 |
| 1RB-Middle (50)  |                  | 688 (133372)   | 23.84        | 23.04 | 21.99 |       |
|                  |                  | 683 (133322)   | 23.81        | 23.18 | 21.90 |       |
|                  |                  | 673 (133222)   | 23.89        | 23.09 | 22.01 |       |
| 1RB-Low (0)      |                  | 688 (133372)   | 23.82        | 22.99 | 21.95 |       |
|                  |                  | 683 (133322)   | 23.93        | 23.13 | 21.92 |       |
|                  |                  | 673 (133222)   | 23.90        | 23.03 | 22.00 |       |
| 50RB-High (50)   |                  | 688 (133372)   | 22.80        | 21.81 | 20.82 |       |
|                  |                  | 683 (133322)   | 22.75        | 21.76 | 20.77 |       |
|                  |                  | 673 (133222)   | 22.73        | 21.78 | 20.76 |       |
| 50RB-Middle (25) | 688 (133372)     | 22.84          | 21.85        | 20.89 |       |       |

|           |              |              |       |       |       |
|-----------|--------------|--------------|-------|-------|-------|
|           | 50RB-Low (0) | 683 (133322) | 22.84 | 21.84 | 20.86 |
|           |              | 673 (133222) | 22.84 | 21.88 | 20.85 |
|           |              | 688 (133372) | 22.80 | 21.85 | 20.83 |
|           |              | 683 (133322) | 22.92 | 21.91 | 20.92 |
|           |              | 673 (133222) | 22.74 | 21.77 | 20.81 |
| 100RB (0) | 688 (133372) | 22.81        | 21.82 | 20.81 |       |
|           | 683 (133322) | 22.83        | 21.79 | 20.82 |       |
|           | 673 (133222) | 22.73        | 21.76 | 20.76 |       |

SAR test is not required since maximum output power when downlink carrier aggregation active is not more than ¼ dB higher than the maximum output power measured when downlink carrier aggregation inactive.

The device supports Intra-band uplink LTE Carrier Aggregation (CA) CA\_5B, CA\_66B and CA\_66C. The conducted power measurement results of LTE CA are provided as follow.

All other uplink communications are identical to the release 8 specifications. Other LTE Rel.10 or higher features are not supported, including Enhanced SC-FDMA or Uplink MIMO etc.

The conducted power measurement results of LTE uplink 2CA are as below :

| CA_5B (Power level A1/B1/C1) |            |       |              |               |            |       |              |                         |
|------------------------------|------------|-------|--------------|---------------|------------|-------|--------------|-------------------------|
| PCC                          |            |       |              | SCC           |            |       |              | Power                   |
| PCC Bandwidth                | UL channel | UL RB | UL RB OFFSET | SCC Bandwidth | DL channel | UL RB | UL RB OFFSET | conducted power ( dBm ) |
| 5M                           | 20425      | 1     | 24           | 3M            | 2464       | 1     | 0            | 23.95                   |
| 10M                          | 20450      | 1     | 49           | 5M            | 2522       | 1     | 0            | 23.92                   |
| 10M                          | 20450      | 1     | 49           | 10M           | 2549       | 1     | 0            | 23.96                   |
| 5M                           | 20625      | 1     | 24           | 3M            | 2586       | 1     | 0            | 23.88                   |
| 10M                          | 20600      | 1     | 49           | 5M            | 2528       | 1     | 0            | 23.92                   |
| 10M                          | 20600      | 1     | 49           | 10M           | 2501       | 1     | 0            | 15.48                   |

| CA_66B (Power level A1) |            |       |              |               |            |       |              |                         |
|-------------------------|------------|-------|--------------|---------------|------------|-------|--------------|-------------------------|
| PCC                     |            |       |              | SCC           |            |       |              | Power                   |
| PCC Bandwidth           | UL channel | UL RB | UL RB OFFSET | SCC Bandwidth | DL channel | UL RB | UL RB OFFSET | conducted power ( dBm ) |
| 5M                      | 131997     | 1     | 24           | 5M            | 66509      | 1     | 0            | 23.62                   |
| 10M                     | 132022     | 1     | 49           | 5M            | 66558      | 1     | 0            | 23.63                   |
| 15M                     | 132047     | 1     | 74           | 5M            | 66604      | 1     | 0            | 23.57                   |
| 10M                     | 132022     | 1     | 49           | 10M           | 66585      | 1     | 0            | 23.59                   |

| CA_66B (Power level B1) |            |       |              |               |            |       |              |                         |
|-------------------------|------------|-------|--------------|---------------|------------|-------|--------------|-------------------------|
| PCC                     |            |       |              | SCC           |            |       |              | Power                   |
| PCC Bandwidth           | UL channel | UL RB | UL RB OFFSET | SCC Bandwidth | DL channel | UL RB | UL RB OFFSET | conducted power ( dBm ) |
| 5M                      | 131997     | 1     | 24           | 5M            | 66509      | 1     | 0            | 22.21                   |
| 10M                     | 132022     | 1     | 49           | 5M            | 66558      | 1     | 0            | 22.25                   |
| 15M                     | 132047     | 1     | 74           | 5M            | 66604      | 1     | 0            | 22.16                   |
| 10M                     | 132022     | 1     | 49           | 10M           | 66585      | 1     | 0            | 22.23                   |

| CA_66B (Power level C1) |            |       |              |               |            |       |              |                         |
|-------------------------|------------|-------|--------------|---------------|------------|-------|--------------|-------------------------|
| PCC                     |            |       |              | SCC           |            |       |              | Power                   |
| PCC Bandwidth           | UL channel | UL RB | UL RB OFFSET | SCC Bandwidth | DL channel | UL RB | UL RB OFFSET | conducted power ( dBm ) |
| 5M                      | 131997     | 1     | 24           | 5M            | 66509      | 1     | 0            | 17.74                   |
| 10M                     | 132022     | 1     | 49           | 5M            | 66558      | 1     | 0            | 17.7                    |
| 15M                     | 132047     | 1     | 74           | 5M            | 66604      | 1     | 0            | 17.71                   |
| 10M                     | 132022     | 1     | 49           | 10M           | 66585      | 1     | 0            | 17.73                   |

| CA_66C (Power level A1) |            |       |              |               |            |       |              |                         |
|-------------------------|------------|-------|--------------|---------------|------------|-------|--------------|-------------------------|
| PCC                     |            |       |              | SCC           |            |       |              | Power                   |
| PCC Bandwidth           | UL channel | UL RB | UL RB OFFSET | SCC Bandwidth | DL channel | UL RB | UL RB OFFSET | conducted power ( dBm ) |
| 20M                     | 132072     | 1     | 99           | 5M            | 66653      | 1     | 0            | 23.53                   |
| 20M                     | 132072     | 1     | 99           | 10M           | 66680      | 1     | 0            | 23.52                   |
| 20M                     | 132072     | 1     | 99           | 15M           | 66707      | 1     | 0            | 23.52                   |
| 20M                     | 132072     | 1     | 99           | 20M           | 66734      | 1     | 0            | 23.56                   |
| 15M                     | 132047     | 1     | 74           | 10M           | 66631      | 1     | 0            | 23.55                   |
| 15M                     | 132047     | 1     | 74           | 15M           | 66661      | 1     | 0            | 23.51                   |
| 20M                     | 132572     | 1     | 99           | 5M            | 66919      | 1     | 0            | 15.15                   |
| 20M                     | 132072     | 1     | 99           | 10M           | 66892      | 1     | 0            | 15.14                   |
| 20M                     | 132072     | 1     | 99           | 15M           | 66885      | 1     | 0            | 15.12                   |
| 20M                     | 132072     | 1     | 99           | 20M           | 66838      | 1     | 0            | 15.13                   |

| CA_66C (Power level B1) |            |       |              |               |            |       |              |                         |
|-------------------------|------------|-------|--------------|---------------|------------|-------|--------------|-------------------------|
| PCC                     |            |       |              | SCC           |            |       |              | Power                   |
| PCC Bandwidth           | UL channel | UL RB | UL RB OFFSET | SCC Bandwidth | DL channel | UL RB | UL RB OFFSET | conducted power ( dBm ) |
| 20M                     | 132072     | 1     | 99           | 5M            | 66653      | 1     | 0            | 22.13                   |
| 20M                     | 132072     | 1     | 99           | 10M           | 66680      | 1     | 0            | 22.12                   |
| 20M                     | 132072     | 1     | 99           | 15M           | 66707      | 1     | 0            | 22.15                   |
| 20M                     | 132072     | 1     | 99           | 20M           | 66734      | 1     | 0            | 22.18                   |
| 15M                     | 132047     | 1     | 74           | 10M           | 66631      | 1     | 0            | 22.11                   |
| 15M                     | 132047     | 1     | 74           | 15M           | 66661      | 1     | 0            | 22.13                   |
| 20M                     | 132572     | 1     | 99           | 5M            | 66919      | 1     | 0            | 15.17                   |
| 20M                     | 132072     | 1     | 99           | 10M           | 66892      | 1     | 0            | 15.16                   |
| 20M                     | 132072     | 1     | 99           | 15M           | 66885      | 1     | 0            | 15.13                   |
| 20M                     | 132072     | 1     | 99           | 20M           | 66838      | 1     | 0            | 15.14                   |

| CA_66C (Power level C1) |            |       |              |               |            |       |              |                         |
|-------------------------|------------|-------|--------------|---------------|------------|-------|--------------|-------------------------|
| PCC                     |            |       |              | SCC           |            |       |              | Power                   |
| PCC Bandwidth           | UL channel | UL RB | UL RB OFFSET | SCC Bandwidth | DL channel | UL RB | UL RB OFFSET | conducted power ( dBm ) |
| 20M                     | 132072     | 1     | 99           | 5M            | 66653      | 1     | 0            | 17.66                   |
| 20M                     | 132072     | 1     | 99           | 10M           | 66680      | 1     | 0            | 17.64                   |
| 20M                     | 132072     | 1     | 99           | 15M           | 66707      | 1     | 0            | 17.63                   |
| 20M                     | 132072     | 1     | 99           | 20M           | 66734      | 1     | 0            | 17.68                   |
| 15M                     | 132047     | 1     | 74           | 10M           | 66631      | 1     | 0            | 17.66                   |
| 15M                     | 132047     | 1     | 74           | 15M           | 66661      | 1     | 0            | 17.64                   |
| 20M                     | 132572     | 1     | 99           | 5M            | 66919      | 1     | 0            | 15.17                   |
| 20M                     | 132072     | 1     | 99           | 10M           | 66892      | 1     | 0            | 15.15                   |
| 20M                     | 132072     | 1     | 99           | 15M           | 66885      | 1     | 0            | 15.14                   |
| 20M                     | 132072     | 1     | 99           | 20M           | 66838      | 1     | 0            | 15.14                   |

### 11.4 Wi-Fi and BT Measurement result

The maximum output power of BT antenna is 5.16dBm.

The maximum tune up of BT antenna is 5.5dBm.

#### The average conducted power for Wi-Fi 2.4G is as following-Power Level A1

|               |                   |       |         |
|---------------|-------------------|-------|---------|
| 802.11b       | Channel\data rate | 1Mbps | Tune up |
| WLAN2450      | 11(2462MHz)       | 20.45 | 20.50   |
|               | 6(2437(MHz)       | 20.66 | 20.70   |
|               | 1(2412MHz)        | 20.79 | 20.80   |
| 802.11g       | Channel\data rate | 6Mbps | Tune up |
| WLAN2450      | 11(2462MHz)       | 16.25 | 18.20   |
|               | 6(2437(MHz)       | 18.59 | 19.00   |
|               | 1(2412MHz)        | 18.49 | 19.00   |
| 802.11n-20MHz | Channel\data rate | MCS0  | Tune up |
| WLAN2450      | 11(2462MHz)       | 16.33 | 18.30   |
|               | 6(2437(MHz)       | 18.86 | 19.00   |
|               | 1(2412MHz)        | 17.92 | 19.00   |

#### The tune up power for Wi-Fi 5G is as following:

| WiFi 802.11a(5GHz) 20MHz CH36-165 excepted ch52 ch140 |       |   |       |   |       |   |       |   |  |
|---|-------|---|-------|---|-------|---|-------|---|--|
| Channel\data rate                                     | MCS0  |   | MCS1  |   | MCS2  |   | MCS3  |   |  |
|   | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |  |
| CH36  | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |  |
| CH64  | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |  |
| CH165   | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |  |
| WiFi 802.11a(5GHz) 20MHz CH36-165 excepted ch52 ch140 |       |   |       |   |       |   |       |   |  |
| Channel\data rate                                     | MCS4  |   | MCS5  |   | MCS6  |   | MCS7  |   |  |
|   | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |  |
| CH36  | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |  |
| CH64  | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |  |
| CH165   | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |  |

| WiFi 802.11a(5GHz) 20MHz CH52 ch140 |       |   |       |   |       |   |       |   |
|-------------------------------------|-------|---|-------|---|-------|---|-------|---|
| Channel\data rate                   | MCS0  |   | MCS1  |   | MCS2  |   | MCS3  |   |
|                                     | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |
| CH52                                | 18.00 | 1 | 18.00 | 1 | 18.00 | 1 | 18.00 | 1 |
| CH140                               | 15.50 | 1 | 15.50 | 1 | 15.50 | 1 | 15.50 | 1 |

| WiFi 802.11a(5GHz) 20MHz CH52 ch140 |       |   |       |   |       |   |       |   |
|-------------------------------------|-------|---|-------|---|-------|---|-------|---|
| Channel\data rate                   | MCS4  |   | MCS5  |   | MCS6  |   | MCS7  |   |
|                                     | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |
|                                     | 18.00 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |
| CH140                               | 15.50 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |

| WiFi 802.11n(5GHz) 20MHz CH36-165 excepted ch140 |       |   |       |   |       |   |       |   |
|--|-------|---|-------|---|-------|---|-------|---|
| Channel\data rate                                | MCS0  |   | MCS1  |   | MCS2  |   | MCS3  |   |
|  | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |
| CH36   | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |
| CH64   | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |
| CH165  | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |

| WiFi 802.11n(5GHz) 20MHz CH36-165 excepted ch140 |       |   |       |   |       |   |       |   |
|--|-------|---|-------|---|-------|---|-------|---|
| Channel\data rate                                | MCS4  |   | MCS5  |   | MCS6  |   | MCS7  |   |
|  | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |
| CH36   | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |
| CH64   | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |
| CH165  | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |

| WiFi 802.11n(5GHz) 20MHz ch140 |       |   |       |   |       |   |       |   |
|--------------------------------|-------|---|-------|---|-------|---|-------|---|
| Channel\data rate              | MCS0  |   | MCS1  |   | MCS2  |   | MCS3  |   |
|                                | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |
| CH140                          | 15.40 | 1 | 15.40 | 1 | 15.40 | 1 | 15.40 | 1 |



| WiFi 802.11a(5GHz) 20MHz ch140 |       |   |       |   |       |   |       |   |  |
|--------------------------------|-------|---|-------|---|-------|---|-------|---|--|
| Channel\data rate              | MCS4  |   | MCS5  |   | MCS6  |   | MCS7  |   |  |
|                                | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |  |
| CH140                          | 15.40 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |  |

| WiFi 802.11n(5GHz) 40MHz CH38-159 excepted ch38 ch62 ch102 |       |   |       |   |       |   |       |   |  |
|--|-------|---|-------|---|-------|---|-------|---|--|
| Channel\data rate  | MCS0  |   | MCS1  |   | MCS2  |   | MCS3  |   |  |
|  | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |  |
| CH38   | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |  |
| CH100  | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |  |
| CH159  | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |  |

| WiFi 802.11n(5GHz) 40MHz CH38-159 excepted ch38 ch62 ch102 |       |   |       |   |       |   |       |   |  |
|--|-------|---|-------|---|-------|---|-------|---|--|
| Channel\data rate  | MCS4  |   | MCS5  |   | MCS6  |   | MCS7  |   |  |
|  | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |  |
| CH38   | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |  |
| CH100  | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |  |
| CH159  | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |  |

| WiFi 802.11n(5GHz) 40MHz ch38 ch62 ch102 |       |   |       |   |       |   |       |   |
|--|-------|---|-------|---|-------|---|-------|---|
| Channel\data rate                        | MCS0  |   | MCS1  |   | MCS2  |   | MCS3  |   |
|  | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |
| ch38 ch62                                | 17.30 | 1 | 17.30 | 1 | 17.30 | 1 | 17.30 | 1 |
| CH102                                    | 15.20 | 1 | 15.20 | 1 | 15.20 | 1 | 15.20 | 1 |

| WiFi 802.11n(5GHz) 40MHz ch38 ch62 ch102 |       |   |       |   |       |   |       |   |
|--|-------|---|-------|---|-------|---|-------|---|
| Channel\data rate                        | MCS4  |   | MCS5  |   | MCS6  |   | MCS7  |   |
|  | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |
| ch38 ch62                                | 17.30 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |
| CH102                                    | 15.20 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |

| WiFi 802.11ac(5GHz) 20MHz CH38-159 excepted ch140 |       |   |       |   |       |   |       |   |
|---|-------|---|-------|---|-------|---|-------|---|
| Channel\data rate                                 | MCS0  |   | MCS1  |   | MCS2  |   | MCS3  |   |
|   | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |
| CH36  | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |
| CH64  | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |
| CH165   | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |

| WiFi 802.11ac(5GHz) 20MHz CH38-159 excepted ch140 |       |   |       |   |       |   |       |   |
|---|-------|---|-------|---|-------|---|-------|---|
| Channel\data rate                                 | MCS4  |   | MCS5  |   | MCS6  |   | MCS7  |   |
|   | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |
| CH36  | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |
| CH64  | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |
| CH165   | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |

| WiFi 802.11ac(5GHz) 20MHz ch140 |       |   |       |   |       |   |       |   |  |
|---------------------------------|-------|---|-------|---|-------|---|-------|---|--|
| Channel\data rate               | MCS0  |   | MCS1  |   | MCS2  |   | MCS3  |   |  |
|                                 | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |  |
| CH140                           | 15.50 | 1 | 15.50 | 1 | 15.50 | 1 | 15.50 | 1 |  |

| WiFi 802.11ac(5GHz) 20MHz ch140 |       |   |       |   |       |   |       |   |  |
|---------------------------------|-------|---|-------|---|-------|---|-------|---|--|
| Channel\data rate               | MCS4  |   | MCS5  |   | MCS6  |   | MCS7  |   |  |
|                                 | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |  |
| CH140                           | 15.50 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |  |

| WiFi 802.11ac(5GHz) 40MHz CH38-159 excepted ch38 ch62 ch102 |       |   |       |   |       |   |       |   |  |
|---|-------|---|-------|---|-------|---|-------|---|--|
| Channel\data rate   | MCS0  |   | MCS1  |   | MCS2  |   | MCS3  |   |  |
|   | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |  |
| CH38  | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |  |
| CH102   | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |  |
| CH159   | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 | 17.90 | 1 |  |

| WiFi 802.11ac(5GHz) 40MHz CH38-159 excepted ch38 ch62 ch102 |       |   |       |   |       |   |       |   |  |
|---|-------|---|-------|---|-------|---|-------|---|--|
| Channel\data rate   | MCS4  |   | MCS5  |   | MCS6  |   | MCS7  |   |  |
|   | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |  |
| CH38  | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |  |
| CH102   | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |  |
| CH159   | 17.90 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 |  |

| WiFi 802.11ac(5GHz) 40MHz ch38 ch62 ch102 |       |   |       |   |       |   |       |   |  |
|---|-------|---|-------|---|-------|---|-------|---|--|
| Channel\data rate                         | MCS0  |   | MCS1  |   | MCS2  |   | MCS3  |   |  |
|   | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |  |
| ch38 ch62                                 | 17.60 | 1 | 17.60 | 1 | 17.60 | 1 | 17.60 | 1 |  |
| ch102                                     | 16.80 | 1 | 16.80 | 1 | 16.80 | 1 | 16.80 | 1 |  |

| WiFi 802.11ac(5GHz) 40MHz ch38 ch62                    |       |   |       |   |       |   |       |   |   |
|--|-------|---|-------|---|-------|---|-------|---|---|
| Channel\data rate                                      | MCS4  |   | MCS5  |   | MCS6  |   | MCS7  |   |   |
|  | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |   |
| ch38 ch62  | 17.60 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 | 1 |
| ch102  | 16.80 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 | 1 |
| WiFi 802.11ac(5GHz) 80MHz CH42-155 excepted ch58 ch106 |       |   |       |   |       |   |       |   |   |
| Channel\data rate                                      | MCS0  |   | MCS1  |   | MCS2  |   | MCS3  |   |   |
|  | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |   |
| CH42   | 16.50 | 1 | 16.50 | 1 | 16.50 | 1 | 16.50 | 1 | 1 |
| CH106  | 16.50 | 1 | 16.50 | 1 | 16.50 | 1 | 16.50 | 1 | 1 |
| CH155  | 16.50 | 1 | 16.50 | 1 | 16.50 | 1 | 16.50 | 1 | 1 |
| WiFi 802.11ac(5GHz) 80MHz CH42-155 excepted ch58 ch106 |       |   |       |   |       |   |       |   |   |
| Channel\data rate                                      | MCS4  |   | MCS5  |   | MCS6  |   | MCS7  |   |   |
|  | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |   |
| CH42   | 16.50 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 | 1 |
| CH106  | 16.50 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 | 1 |
| CH155  | 16.50 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 | 1 |

| WiFi 802.11ac(5GHz) 80MHz ch58 ch106 |       |   |       |   |       |   |       |   |   |
|--------------------------------------|-------|---|-------|---|-------|---|-------|---|---|
| Channel\data rate                    | MCS0  |   | MCS1  |   | MCS2  |   | MCS3  |   |   |
|                                      | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |   |
| CH58                                 | 15.50 | 1 | 15.50 | 1 | 15.50 | 1 | 15.50 | 1 | 1 |
| CH106                                | 15.20 | 1 | 15.20 | 1 | 15.20 | 1 | 15.20 | 1 | 1 |
| WiFi 802.11ac(5GHz) 80MHz ch58 ch106 |       |   |       |   |       |   |       |   |   |
| Channel\data rate                    | MCS4  |   | MCS5  |   | MCS6  |   | MCS7  |   |   |
|                                      | dBm   | ± | dBm   | ± | dBm   | ± | dBm   | ± |   |
| CH58                                 | 15.50 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 | 1 |
| CH106                                | 15.20 | 1 | 15.00 | 1 | 15.00 | 1 | 15.00 | 1 | 1 |

The average conducted power for Wi-Fi 5G is as following:

| <b>802.11a(dBm)</b> |       |         |
|---------------------|-------|---------|
| Channel\data rate   | 6Mbps | Tune up |
| 36(5180 MHz)        | 17.32 | 18.90   |
| 40(5200 MHz)        | 18.78 | 18.90   |
| 44(5220 MHz)        | 17.92 | 18.90   |
| 48(5240 MHz)        | 18.69 | 18.90   |
| 52(5260 MHz)        | 18.97 | 19.00   |
| 56(5280 MHz)        | 18.55 | 18.90   |
| 60(5300 MHz)        | 18.50 | 18.90   |
| 64(5320 MHz)        | 18.81 | 18.90   |

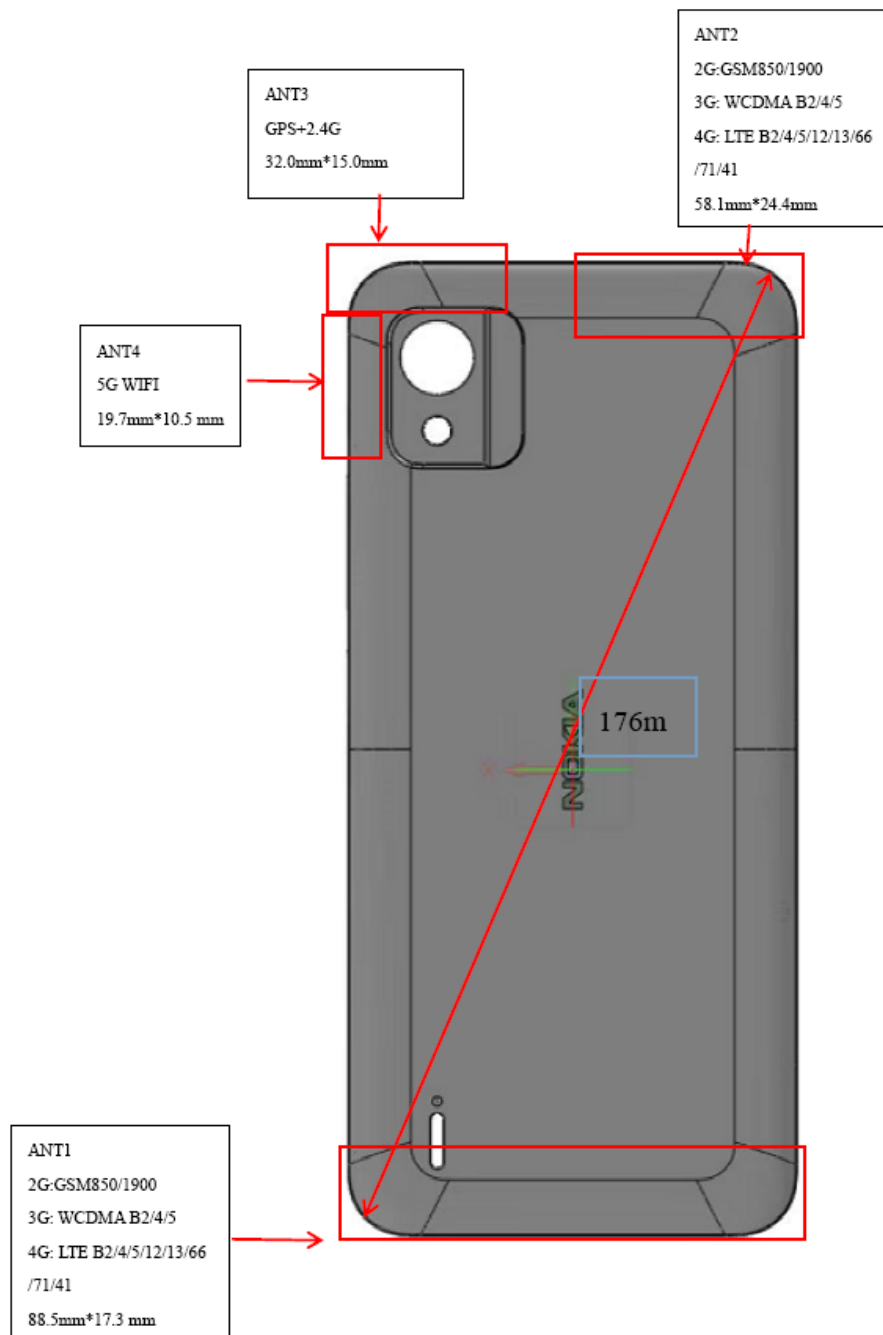
| <b>802.11n(dBm)-40MHz</b> |       |         |
|---------------------------|-------|---------|
| Channel\data rate         | MCS0  | Tune up |
| 102(5510 MHz)             | 14.29 | 16.20   |
| 110(5550 MHz)             | 18.47 | 18.90   |
| 118(5590 MHz)             | 17.92 | 18.90   |
| 126(5630 MHz)             | 18.22 | 18.90   |
| 134(5670 MHz)             | 17.58 | 18.90   |
| 142(5710 MHz)             | 18.52 | 18.90   |
| 151(5755 MHz)             | 18.79 | 18.90   |
| 159(5795 MHz)             | 18.82 | 18.90   |

## 12 Simultaneous TX SAR Considerations

### 12.1 Introduction

The following procedures adopted from “FCC SAR Considerations for Cell Phones with Multiple Transmitters” are applicable to handsets with built-in unlicensed transmitters such as 802.11 a/b/g and Bluetooth devices which may simultaneously transmit with the licensed transmitter. For this device, the BT and Wi-Fi can transmit simultaneous with other transmitters.

### 12.2 Transmit Antenna Separation Distances



Picture 12.1 Antenna location

### 12.3 SAR Measurement Positions

According to the KDB941225 D06 Hot Spot SAR, the edges with less than 2.5 cm distance to the antennas need to be tested for SAR.

| SAR measurement positions |       |      |           |            |          |             |
|---------------------------|-------|------|-----------|------------|----------|-------------|
| Mode                      | Front | Rear | Left edge | Right edge | Top edge | Bottom edge |
| WWAN-Main                 | Yes   | Yes  | Yes       | Yes        | No       | Yes         |
| WIFI                      | Yes   | Yes  | No        | Yes        | Yes      | No          |

### 13 Evaluation of Simultaneous

**Table 13.1: The sum of SAR values for Main antenna + WiFi-2.4G**

|                                   | Position                  | Main antenna | WiFi-2.4G | Sum         |
|-----------------------------------|---------------------------|--------------|-----------|-------------|
| <b>Highest SAR value for Head</b> | Left head, Touch (LTE B5) | 0.46         | 1.06      | <b>1.52</b> |
| <b>Highest SAR value for Body</b> | Rear 10mm (WCDMA B4)      | 0.86         | 0.34      | <b>1.20</b> |
|                                   | Rear 15mm (WCDMA B4)      | 1.33         | 0.18      | <b>1.51</b> |

**Table 13.2: The sum of SAR values for Main antenna+WiFi-5G+BT**

|                                   | Position                  | Main antenna | WiFi-5G | BT   | Sum         |
|-----------------------------------|---------------------------|--------------|---------|------|-------------|
| <b>Highest SAR value for Head</b> | Left head, Touch (LTE B5) | 0.46         | 0.52    | 0.02 | <b>1.00</b> |
| <b>Highest SAR value for Body</b> | Rear 10mm (LTE B41-PC3)   | 0.60         | 0.90    | 0.02 | <b>1.52</b> |
|                                   | Rear 15mm (LTE B41-PC2)   | 0.58         | 0.72    | 0.02 | <b>1.32</b> |

#### Conclusion:

According to the above tables, the sum of reported SAR values is <math>< 1.6\text{W/kg}</math>. So the simultaneous transmission SAR with volume scans is not required.

**Table 13.3: The sum of reported SAR values for main antenna and WiFi2.4G (SPLSR)**

|   | Position  | Band        | Main antenna | WiFi2.4G 10mm | Sum         | Distance (mm) | Ratio |
|---|-----------|-------------|--------------|---------------|-------------|---------------|-------|
| <b>Highest reported SAR value for Body</b>      | Rear 10mm | GSM850      | 0.39         | 0.34          | <b>0.73</b> | /             | /     |
|   | Rear 10mm | GSM1900     | 0.45         | 0.34          | <b>0.79</b> | /             | /     |
|   | Rear 10mm | WCDMA B2    | 0.46         | 0.34          | <b>0.80</b> | /             | /     |
|   | Rear 10mm | WCDMA B4    | 0.86         | 0.34          | <b>1.20</b> | /             | /     |
|   | Rear 10mm | LTE B2      | 0.53         | 0.34          | <b>0.87</b> | /             | /     |
|   | Rear 10mm | LTE B5      | 0.48         | 0.34          | <b>0.82</b> | /             | /     |
|   | Rear 10mm | LTE B12     | 0.54         | 0.34          | <b>0.88</b> | /             | /     |
|   | Rear 10mm | LTE B13     | 0.52         | 0.34          | <b>0.86</b> | /             | /     |
|   | Rear 10mm | LTE B41 PC3 | 0.60         | 0.34          | <b>0.94</b> | /             | /     |
|   | Rear 10mm | LTE B41 PC2 | 0.83         | 0.34          | <b>1.17</b> | /             | /     |
|   | Rear 10mm | LTE B66     | 0.69         | 0.34          | <b>1.03</b> | /             | /     |
|   | Rear 10mm | LTE B71     | 0.57         | 0.34          | <b>0.91</b> | /             | /     |
|   | Position  | band        | Main antenna | WiFi2.4G 15mm | Sum         | Distance (mm) | Ratio |
| <b>Highest reported SAR value for Body Worn</b> | Rear 15mm | GSM1900     | 0.55         | 0.18          | <b>0.73</b> | /             | /     |
|   | Rear 15mm | WCDMA B2    | 0.38         | 0.18          | <b>0.56</b> | /             | /     |
|   | Rear 15mm | WCDMA B4    | 1.33         | 0.18          | <b>1.51</b> | /             | /     |
|   | Rear 15mm | LTE B2      | 0.34         | 0.18          | <b>0.52</b> | /             | /     |
|   | Rear 15mm | LTE B41 PC3 | 0.62         | 0.18          | <b>0.80</b> | /             | /     |
|   | Rear 15mm | LTE B41 PC2 | 0.58         | 0.18          | <b>0.76</b> | /             | /     |
|   | Rear 15mm | LTE B66     | 1.18         | 0.18          | <b>1.36</b> | /             | /     |
|   | Position  | band        | Main antenna | WiFi2.4G 0mm  | Sum         | Distance (mm) | Ratio |
| <b>Highest reported SAR value for Phablet</b>   | Rear 0mm  | WCDMA B4    | 2.12         | 1.20          | <b>3.32</b> | /             | /     |
|   | Rear 0mm  | LTE B41 PC3 | 2.94         | 1.20          | <b>4.14</b> | 145.3         | 0.06  |
|   | Rear 0mm  | LTE B41 PC2 | 3            | 1.20          | <b>4.20</b> | 120.6         | 0.07  |
|   | Rear 0mm  | LTE B66     | 1.7          | 1.20          | <b>2.90</b> | /             | /     |



**Table 13.4: The sum of reported SAR values for main antenna and WiFi5G (SPLSR)**

|   | Position  | Band        | Main antenna | WiFi5G 10mm | Sum         | Distance (mm) | Ratio |
|---|-----------|-------------|--------------|-------------|-------------|---------------|-------|
| <b>Highest reported SAR value for Body</b>      | Rear 10mm | GSM850      | 0.39         | 0.90        | <b>1.29</b> | /             | /     |
|   | Rear 10mm | GSM1900     | 0.45         | 0.90        | <b>1.35</b> | /             | /     |
|   | Rear 10mm | WCDMA B2    | 0.46         | 0.90        | <b>1.36</b> | /             | /     |
|   | Rear 10mm | WCDMA B4    | 0.86         | 0.90        | <b>1.76</b> | 148.06        | 0.02  |
|   | Rear 10mm | LTE B2      | 0.53         | 0.90        | <b>1.43</b> | /             | /     |
|   | Rear 10mm | LTE B5      | 0.48         | 0.90        | <b>1.38</b> | /             | /     |
|   | Rear 10mm | LTE B12     | 0.54         | 0.90        | <b>1.44</b> | /             | /     |
|   | Rear 10mm | LTE B13     | 0.52         | 0.90        | <b>1.42</b> | /             | /     |
|   | Rear 10mm | LTE B41 PC3 | 0.60         | 0.90        | <b>1.50</b> | /             | /     |
|   | Rear 10mm | LTE B41 PC2 | 0.83         | 0.90        | <b>1.73</b> | 155.51        | 0.01  |
|   | Rear 10mm | LTE B66     | 0.69         | 0.90        | <b>1.59</b> | 151.77        | 0.01  |
|   | Rear 10mm | LTE B71     | 0.57         | 0.90        | <b>1.47</b> | /             | /     |
|   | Position  | band        | Main antenna | WiFi5G 15mm | Sum         | Distance (mm) | Ratio |
| <b>Highest reported SAR value for Body Worn</b> | Rear 15mm | GSM1900     | 0.55         | 0.72        | <b>1.27</b> | /             | /     |
|   | Rear 15mm | WCDMA B2    | 0.38         | 0.72        | <b>1.10</b> | /             | /     |
|   | Rear 15mm | WCDMA B4    | 1.33         | 0.72        | <b>2.05</b> | 129.92        | 0.02  |
|   | Rear 15mm | LTE B2      | 0.34         | 0.72        | <b>1.06</b> | /             | /     |
|   | Rear 15mm | LTE B41 PC3 | 0.62         | 0.72        | <b>1.34</b> | /             | /     |
|   | Rear 15mm | LTE B41 PC2 | 0.58         | 0.72        | <b>1.30</b> | /             | /     |
|   | Rear 15mm | LTE B66     | 1.18         | 0.72        | <b>1.90</b> | 124.42        | 0.02  |
|   | Position  | band        | Main antenna | WiFi5G 0mm  | Sum         | Distance (mm) | Ratio |
| <b>Highest reported SAR value for Phablet</b>   | Rear 0mm  | WCDMA B4    | 2.12         | 1.74        | <b>3.86</b> | /             | /     |
|   | Rear 0mm  | LTE B41 PC3 | 2.94         | 1.74        | <b>4.68</b> | 144.8         | 0.07  |
|   | Rear 0mm  | LTE B41 PC2 | 3            | 1.74        | <b>4.74</b> | 119.74        | 0.09  |
|   | Rear 0mm  | LTE B66     | 1.7          | 1.74        | <b>3.44</b> | /             | /     |

According to the KDB 447498 D01, when the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio. The ratio is determined by  $(SAR1 + SAR2)1.5/R_i$ , rounded to two decimal digits, and must be  $\leq 0.04$  for all antenna pairs in the configuration to qualify for 1-g SAR test exclusion. When 10-g SAR applies, the ratio must be  $\leq 0.10$ . SAR1 and SAR2 are the highest reported or estimated SAR values for each antenna in the pair, and  $R_i$  is the separation distance in mm between the peak SAR locations for the antenna pair.

Find distance of maxima

| Maxima and position w.r.t. Grid Reference Point   associated 1g averages                            |  |
|---|--|
| Zoom Scan (D:\2022\I22Z62189(FCC)-1\15mm 0mm\LTE Band41 PC2 Body Rear 0mm 38a CYF 11-28.da53:0/...  |  |
| Max. 1 at (-14.80, 49.00, -0.81) mm   | 8.22 W/kg  |
| Zoom Scan (F:\I22Z62189(FCC)\I22Z62189(FCC)\New folder\WLAN5G Body Rear 36a CYF 1.14.da53:0/WLAN... |  |
| Max. 2 at (21.06, -65.24, 0.80) mm  | 7.85 W/kg  |
| Distances and Separation Ratios   |  |
| Max. 1 - Max. 2   | Distance [mm]: 119.74 / Separation ratio [W/kg/mm]: 0.54 |
|   |  |

Done

Picture 13.1 Distance evaluation for LTE B41-PC2 and WiFi5G Body (Rear 0mm)

## 14 SAR Test Result

It is determined by user manual for the distance between the EUT and the phantom bottom.

The distance is 10 mm and just applied to the condition of body worn accessory.

It is performed for all SAR measurements with area scan based 1-g SAR estimation (Fast SAR). A zoom scan measurement is added when the estimated 1-g SAR is the highest measured SAR in each exposure configuration, wireless mode and frequency band combination or more than 1.2W/kg.

The calculated SAR is obtained by the following formula:

$$\text{Reported SAR} = \text{Measured SAR} \times 10^{(P_{\text{Target}} - P_{\text{Measured}})/10}$$

Where  $P_{\text{Target}}$  is the power of manufacturing upper limit;

$P_{\text{Measured}}$  is the measured power in chapter 11.

**Table 14.1: Duty Cycle**

| Mode                | Duty Cycle       |
|---------------------|------------------|
| GSM 850/1900        | 1:4              |
| GPRS/EGPRS 850/1900 | 1:4              |
| WCDMA&LTE FDD       | 1:1              |
| LTE TDD             | 1:1.58 or 1:2.37 |

### Note

**B1: The Battery of TN-BP3000N1 by Guangdong Fenghua New Energy Co.,Ltd.**

**B2: The Battery of TN-BP3000N1 by Dongguan Ganfeng Electronics Co., Ltd.**

### 14.1 SAR results for 2G/3G/4G

**Table 14.1-1: SAR Values (GSM 850 MHz Band – Head)**

| Frequency  |       | Side  | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|--|-------|-------|---------------|------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.  | MHz   |       |               |            |                       |                          |                         |                         |                          |                          |                  |
| Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5°C |       |       |               |            |                       |                          |                         |                         |                          |                          |                  |
| 251  | 848.8 | Left  | Cheek         | /          | 30.75                 | 31.5                     | 0.255                   | <b>0.30</b>             | 0.201                    | <b>0.24</b>              | -0.03            |
| 190  | 836.6 | Left  | Cheek         | /          | 30.74                 | 31.5                     | 0.273                   | <b>0.33</b>             | 0.223                    | <b>0.27</b>              | 0.12             |
| 128  | 824.2 | Left  | Cheek         | Fig.1      | 30.73                 | 31.5                     | 0.312                   | <b>0.37</b>             | 0.247                    | <b>0.29</b>              | 0.09             |
| 190  | 836.6 | Left  | Tilt          | /          | 30.74                 | 31.5                     | 0.171                   | <b>0.20</b>             | 0.143                    | <b>0.17</b>              | 0.07             |
| 190  | 836.6 | Right | Cheek         | /          | 30.74                 | 31.5                     | 0.253                   | <b>0.30</b>             | 0.204                    | <b>0.24</b>              | -0.11            |
| 190  | 836.6 | Right | Tilt          | /          | 30.74                 | 31.5                     | 0.192                   | <b>0.23</b>             | 0.154                    | <b>0.18</b>              | 0.12             |

**Table 14.1-2: SAR Values (GSM 850 MHz Band - Body)**

| Frequency  |       | Mode (number of timeslots) | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|--|-------|----------------------------|---------------|------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.  | MHz   |                            |               |            |                       |                          |                         |                         |                          |                          |                  |
| Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5°C |       |                            |               |            |                       |                          |                         |                         |                          |                          |                  |
| 190  | 836.6 | GPRS (2)                   | Front         | /          | 30.74                 | 31.5                     | 0.206                   | <b>0.25</b>             | 0.153                    | <b>0.18</b>              | 0.14             |
| 251  | 848.8 | GPRS (2)                   | Rear          | Fig.2      | 30.75                 | 31.5                     | 0.329                   | <b>0.39</b>             | 0.207                    | <b>0.25</b>              | -0.01            |
| 190  | 836.6 | GPRS (2)                   | Rear          | /          | 30.74                 | 31.5                     | 0.289                   | <b>0.34</b>             | 0.182                    | <b>0.22</b>              | -0.07            |
| 128  | 824.2 | GPRS (2)                   | Rear          | /          | 30.73                 | 31.5                     | 0.314                   | <b>0.37</b>             | 0.232                    | <b>0.28</b>              | 0.03             |
| 190  | 836.6 | GPRS (2)                   | Left          | /          | 30.74                 | 31.5                     | 0.224                   | <b>0.27</b>             | 0.157                    | <b>0.19</b>              | -0.1             |
| 190  | 836.6 | GPRS (2)                   | Right         | /          | 30.74                 | 31.5                     | 0.259                   | <b>0.31</b>             | 0.178                    | <b>0.21</b>              | -0.15            |
| 190  | 836.6 | GPRS (2)                   | Bottom        | /          | 30.74                 | 31.5                     | 0.074                   | <b>0.09</b>             | 0.045                    | <b>0.05</b>              | 0.17             |
| 251  | 848.8 | EGPRS (2)                  | Rear          | /          | 30.74                 | 31.5                     | 0.303                   | <b>0.36</b>             | 0.185                    | <b>0.22</b>              | -0.08            |

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.1-3: SAR Values (GSM 1900 MHz Band - Head)**

| Frequency  |        | Side  | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|--|--------|-------|---------------|------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.  | MHz    |       |               |            |                       |                          |                         |                         |                          |                          |                  |
| Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C |        |       |               |            |                       |                          |                         |                         |                          |                          |                  |
| 810  | 1909.8 | Left  | Cheek         | /          | 27.86                 | 28.5                     | 0.159                   | <b>0.18</b>             | 0.104                    | <b>0.12</b>              | 0.11             |
| 661  | 1880   | Left  | Cheek         | /          | 27.8                  | 28.5                     | 0.198                   | <b>0.23</b>             | 0.132                    | <b>0.16</b>              | 0.18             |
| 512  | 1850.2 | Left  | Cheek         | Fig.3      | 27.8                  | 28.5                     | 0.239                   | <b>0.28</b>             | 0.158                    | <b>0.19</b>              | 0.08             |
| 661  | 1880   | Left  | Tilt          | /          | 27.8                  | 28.5                     | 0.139                   | <b>0.16</b>             | 0.092                    | <b>0.11</b>              | -0.18            |
| 661  | 1880   | Right | Cheek         | /          | 27.8                  | 28.5                     | 0.098                   | <b>0.12</b>             | 0.066                    | <b>0.08</b>              | -0.05            |
| 661  | 1880   | Right | Tilt          | /          | 27.8                  | 28.5                     | 0.093                   | <b>0.11</b>             | 0.064                    | <b>0.08</b>              | 0.07             |

**Table 14.1-4: SAR Values (GSM 1900 MHz Band – Body worn)**

| Frequency  |        | Mode (number of timeslots) | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|--|--------|----------------------------|---------------|------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.  | MHz    |                            |               |            |                       |                          |                         |                         |                          |                          |                  |
| Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C |        |                            |               |            |                       |                          |                         |                         |                          |                          |                  |
| 661  | 1880   | GPRS (2)                   | Front         | /          | 27.8                  | 28.5                     | 0.325                   | <b>0.38</b>             | 0.182                    | <b>0.21</b>              | -0.06            |
| 810  | 1909.8 | GPRS (2)                   | Rear          | /          | 27.86                 | 28.5                     | 0.251                   | <b>0.29</b>             | 0.15                     | <b>0.17</b>              | -0.11            |
| 661  | 1880   | GPRS (2)                   | Rear          | /          | 27.8                  | 28.5                     | 0.339                   | <b>0.40</b>             | 0.197                    | <b>0.23</b>              | 0.06             |
| 512  | 1850.2 | GPRS (2)                   | Rear          | Fig.4      | 27.8                  | 28.5                     | 0.465                   | <b>0.55</b>             | 0.264                    | <b>0.31</b>              | -0.02            |
| 512  | 1850.2 | EGPRS (2)                  | Rear          | /          | 27.79                 | 28.5                     | 0.452                   | <b>0.53</b>             | 0.257                    | <b>0.30</b>              | -0.11            |

Note1: The distance between the EUT and the phantom bottom is 15mm

**Table 14.1-5: SAR Values (GSM 1900 MHz Band – Hotspot)**

| Frequency  |        | Mode (number of timeslots) | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|--|--------|----------------------------|---------------|------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.  | MHz    |                            |               |            |                       |                          |                         |                         |                          |                          |                  |
| Ambient Temperature: 22.9°C Liquid Temperature: 22.5°C |        |                            |               |            |                       |                          |                         |                         |                          |                          |                  |
| 661  | 1880   | GPRS (2)                   | Front         | /          | 24.28                 | 26                       | 0.276                   | <b>0.41</b>             | 0.158                    | <b>0.23</b>              | -0.06            |
| 661  | 1880   | GPRS (2)                   | Rear          | /          | 24.28                 | 26                       | 0.302                   | <b>0.45</b>             | 0.159                    | <b>0.24</b>              | 0.05             |
| 661  | 1880   | GPRS (2)                   | Left          | /          | 24.28                 | 26                       | 0.107                   | <b>0.16</b>             | 0.064                    | <b>0.10</b>              | -0.12            |
| 661  | 1880   | GPRS (2)                   | Right         | /          | 24.28                 | 26                       | 0.056                   | <b>0.08</b>             | 0.032                    | <b>0.05</b>              | 0.06             |
| 810  | 1909.8 | GPRS (2)                   | Bottom        | /          | 24.34                 | 26                       | 0.428                   | <b>0.63</b>             | 0.222                    | <b>0.33</b>              | -0.05            |
| 661  | 1880   | GPRS (2)                   | Bottom        | /          | 24.28                 | 26                       | 0.545                   | <b>0.81</b>             | 0.281                    | <b>0.42</b>              | -0.06            |
| 512  | 1850.2 | GPRS (2)                   | Bottom        | Fig.5      | 24.31                 | 26                       | 0.743                   | <b>1.10</b>             | 0.381                    | <b>0.56</b>              | 0.16             |
| 512  | 1850.2 | EGPRS (2)                  | Bottom        | /          | 24.27                 | 26                       | 0.721                   | <b>1.07</b>             | 0.371                    | <b>0.55</b>              | -0.16            |

Note1: The distance between the EUT and the phantom bottom is 10mm

**Table 14.1-6: SAR Values (WCDMA 1900 MHz Band - Head)**

| Frequency  |        | Side  | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|--|--------|-------|---------------|------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.  | MHz    |       |               |            |                       |                          |                         |                         |                          |                          |                  |
| Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5°C |        |       |               |            |                       |                          |                         |                         |                          |                          |                  |
| 9538   | 1907.6 | Left  | Cheek         | Fig.6      | 23.59                 | 24                       | 0.239                   | <b>0.26</b>             | 0.159                    | <b>0.17</b>              | -0.07            |
| 9400   | 1880   | Left  | Cheek         | /          | 23.63                 | 24                       | 0.21                    | <b>0.23</b>             | 0.134                    | <b>0.15</b>              | 0.03             |
| 9262   | 1852.4 | Left  | Cheek         | /          | 23.74                 | 24                       | 0.192                   | <b>0.20</b>             | 0.122                    | <b>0.13</b>              | -0.14            |
| 9400   | 1880   | Left  | Tilt          | /          | 23.63                 | 24                       | 0.186                   | <b>0.20</b>             | 0.116                    | <b>0.13</b>              | 0.17             |
| 9400   | 1880   | Right | Cheek         | /          | 23.63                 | 24                       | 0.174                   | <b>0.19</b>             | 0.111                    | <b>0.12</b>              | 0.03             |
| 9400   | 1880   | Right | Tilt          | /          | 23.63                 | 24                       | 0.155                   | <b>0.17</b>             | 0.099                    | <b>0.11</b>              | -0.1             |

**Table 14.1-7: SAR Values (WCDMA 1900 MHz Band – Body worn)**

| Frequency  |        | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|--|--------|---------------|------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.  | MHz    |               |            |                       |                          |                         |                         |                          |                          |                  |
| Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5°C |        |               |            |                       |                          |                         |                         |                          |                          |                  |
| 9400   | 1880   | Front         | /          | 23.63                 | 24                       | 0.273                   | <b>0.30</b>             | 0.162                    | <b>0.18</b>              | -0.05            |
| 9538   | 1907.6 | Rear          | /          | 23.59                 | 24                       | 0.318                   | <b>0.35</b>             | 0.187                    | <b>0.21</b>              | 0.12             |
| 9400   | 1880   | Rear          | /          | 23.63                 | 24                       | 0.295                   | <b>0.32</b>             | 0.171                    | <b>0.19</b>              | -0.06            |
| 9262   | 1852.4 | Rear          | Fig.7      | 23.74                 | 24                       | 0.354                   | <b>0.38</b>             | 0.201                    | <b>0.21</b>              | -0.18            |

Note1: The distance between the EUT and the phantom bottom is 15mm

**Table 14.1-8: SAR Values (WCDMA 1900 MHz Band - Hotspot)**

| Frequency  |        | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|--|--------|---------------|------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.  | MHz    |               |            |                       |                          |                         |                         |                          |                          |                  |
| Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5°C |        |               |            |                       |                          |                         |                         |                          |                          |                  |
| 9400   | 1880   | Front         | /          | 21.42                 | 22                       | 0.401                   | <b>0.46</b>             | 0.234                    | <b>0.27</b>              | -0.05            |
| 9400   | 1880   | Rear          | /          | 21.42                 | 22                       | 0.399                   | <b>0.46</b>             | 0.21                     | <b>0.24</b>              | -0.11            |
| 9400   | 1880   | Left          | /          | 21.42                 | 22                       | 0.156                   | <b>0.18</b>             | 0.094                    | <b>0.11</b>              | 0.12             |
| 9400   | 1880   | Right         | /          | 21.42                 | 22                       | 0.079                   | <b>0.09</b>             | 0.047                    | <b>0.05</b>              | 0.06             |
| 9538   | 1907.6 | Bottom        | /          | 21.4                  | 22                       | 0.791                   | <b>0.91</b>             | 0.408                    | <b>0.47</b>              | -0.07            |
| 9400   | 1880   | Bottom        | /          | 21.42                 | 22                       | 0.798                   | <b>0.91</b>             | 0.413                    | <b>0.47</b>              | -0.12            |
| 9262   | 1852.4 | Bottom        | Fig.8      | 21.48                 | 22                       | 0.853                   | <b>0.96</b>             | 0.437                    | <b>0.49</b>              | 0.13             |

Note1: The distance between the EUT and the phantom bottom is 10mm

**Table 14.1-9: SAR Values (WCDMA 1700 MHz Band - Head)**

| Frequency   |        | Side  | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)(W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|---|--------|-------|---------------|------------|-----------------------|--------------------------|-------------------------|------------------------|--------------------------|--------------------------|------------------|
| Ch.   | MHz    |       |               |            |                       |                          |                         |                        |                          |                          |                  |
| Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5 °C |        |       |               |            |                       |                          |                         |                        |                          |                          |                  |
| 1412  | 1732.4 | Left  | Cheek         | /          | 23.41                 | 24                       | 0.159                   | <b>0.18</b>            | 0.109                    | <b>0.12</b>              | -0.1             |
| 1412  | 1732.4 | Left  | Tilt          | /          | 23.41                 | 24                       | 0.116                   | <b>0.13</b>            | 0.079                    | <b>0.09</b>              | 0.12             |
| 1513  | 1752.6 | Right | Cheek         | Fig.9      | 23.43                 | 24                       | 0.193                   | <b>0.22</b>            | 0.128                    | <b>0.15</b>              | -0.04            |
| 1412  | 1732.4 | Right | Cheek         | /          | 23.41                 | 24                       | 0.175                   | <b>0.20</b>            | 0.116                    | <b>0.13</b>              | 0.15             |
| 1312  | 1712.4 | Right | Cheek         | /          | 23.35                 | 24                       | 0.172                   | <b>0.20</b>            | 0.114                    | <b>0.13</b>              | -0.17            |
| 1412  | 1732.4 | Right | Tilt          | /          | 23.41                 | 24                       | 0.121                   | <b>0.14</b>            | 0.081                    | <b>0.09</b>              | 0.13             |

**Table 14.1-10: SAR Values (WCDMA 1700 MHz Band – Body worn)**

| Frequency   |        | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)(W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|---|--------|---------------|------------|-----------------------|--------------------------|-------------------------|------------------------|--------------------------|--------------------------|------------------|
| Ch.   | MHz    |               |            |                       |                          |                         |                        |                          |                          |                  |
| Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5 °C |        |               |            |                       |                          |                         |                        |                          |                          |                  |
| 1412  | 1732.5 | Front         | /          | 22.62                 | 23                       | 0.608                   | <b>0.66</b>            | 0.346                    | <b>0.38</b>              | -0.08            |
| 1513  | 1752.6 | Rear          | /          | 22.68                 | 23                       | 0.817                   | <b>0.88</b>            | 0.458                    | <b>0.49</b>              | -0.11            |
| 1412  | 1732.5 | Rear          | /          | 22.62                 | 23                       | 1.02                    | <b>1.11</b>            | 0.569                    | <b>0.62</b>              | 0.06             |
| 1312  | 1712.4 | Rear          | Fig.10     | 22.78                 | 23                       | 1.26                    | <b>1.33</b>            | 0.695                    | <b>0.73</b>              | 0.01             |
| 1312  | 1712.4 | Rear          | B2         | 22.78                 | 23                       | 1.22                    | <b>1.28</b>            | 0.671                    | <b>0.71</b>              | 0.12             |

Note1: The distance between the EUT and the phantom bottom is 15mm

**Table 14.1-11: SAR Values (WCDMA 1700 MHz Band - Hotspot)**

| Frequency   |        | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)(W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|---|--------|---------------|------------|-----------------------|--------------------------|-------------------------|------------------------|--------------------------|--------------------------|------------------|
| Ch.   | MHz    |               |            |                       |                          |                         |                        |                          |                          |                  |
| Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5 °C |        |               |            |                       |                          |                         |                        |                          |                          |                  |
| 1412  | 1732.5 | Front         | /          | 17.34                 | 18                       | 0.323                   | <b>0.38</b>            | 0.173                    | <b>0.20</b>              | 0.08             |
| 1513  | 1752.6 | Rear          | /          | 17.37                 | 18                       | 0.731                   | <b>0.85</b>            | 0.374                    | <b>0.43</b>              | -0.05            |
| 1412  | 1732.5 | Rear          | /          | 17.34                 | 18                       | 0.74                    | <b>0.86</b>            | 0.377                    | <b>0.44</b>              | -0.11            |
| 1312  | 1712.4 | Rear          | /          | 17.31                 | 18                       | 0.717                   | <b>0.84</b>            | 0.365                    | <b>0.43</b>              | 0.07             |
| 1412  | 1732.5 | Left          | /          | 17.34                 | 18                       | 0.025                   | <b>0.03</b>            | 0.012                    | <b>0.01</b>              | -0.03            |
| 1412  | 1732.5 | Right         | /          | 17.34                 | 18                       | 0.063                   | <b>0.07</b>            | 0.035                    | <b>0.04</b>              | -0.04            |
| 1513  | 1752.6 | Bottom        | /          | 17.37                 | 18                       | 0.921                   | <b>1.06</b>            | 0.47                     | <b>0.54</b>              | -0.04            |
| 1412  | 1732.5 | Bottom        | /          | 17.34                 | 18                       | 0.881                   | <b>1.03</b>            | 0.448                    | <b>0.52</b>              | 0.05             |
| 1312  | 1712.4 | Bottom        | Fig.11     | 17.31                 | 18                       | 0.919                   | <b>1.08</b>            | 0.469                    | <b>0.55</b>              | 0.14             |

Note1: The distance between the EUT and the phantom bottom is 10mm

**Table 14.1-12: SAR Values (WCDMA 850 MHz Band - Head)**

| Ambient Temperature: 22.9 °C |       |       |               |            |                       | Liquid Temperature: 22.5 °C |                         |                         |                          |                          |                  |
|------------------------------|-------|-------|---------------|------------|-----------------------|-----------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Frequency                    |       | Side  | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm)    | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
| Ch.                          | MHz   |       |               |            |                       |                             |                         |                         |                          |                          |                  |
| 4233                         | 846.6 | Left  | Cheek         | Fig.12     | 23.33                 | 24                          | 0.302                   | <b>0.35</b>             | 0.239                    | <b>0.28</b>              | -0.05            |
| 4183                         | 836.6 | Left  | Cheek         | /          | 23.38                 | 24                          | 0.292                   | <b>0.34</b>             | 0.233                    | <b>0.27</b>              | -0.06            |
| 4132                         | 826.4 | Left  | Cheek         | /          | 23.41                 | 24                          | 0.296                   | <b>0.34</b>             | 0.235                    | <b>0.27</b>              | -0.09            |
| 4183                         | 836.6 | Left  | Tilt          | /          | 23.38                 | 24                          | 0.188                   | <b>0.22</b>             | 0.156                    | <b>0.18</b>              | -0.08            |
| 4183                         | 836.6 | Right | Cheek         | /          | 23.38                 | 24                          | 0.275                   | <b>0.32</b>             | 0.221                    | <b>0.25</b>              | 0.13             |
| 4183                         | 836.6 | Right | Tilt          | /          | 23.38                 | 24                          | 0.209                   | <b>0.24</b>             | 0.168                    | <b>0.19</b>              | 0.17             |

**Table 14.1-13: SAR Values (WCDMA 850 MHz Band - Body)**

| Ambient Temperature: 22.9 °C |       |               |            |                       |                          | Liquid Temperature: 22.5 °C |                         |                          |                          |                  |  |
|------------------------------|-------|---------------|------------|-----------------------|--------------------------|-----------------------------|-------------------------|--------------------------|--------------------------|------------------|--|
| Frequency                    |       | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg)     | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |  |
| Ch.                          | MHz   |               |            |                       |                          |                             |                         |                          |                          |                  |  |
| 4183                         | 836.6 | Front         | /          | 23.38                 | 24                       | 0.259                       | <b>0.30</b>             | 0.194                    | <b>0.22</b>              | 0.16             |  |
| 4233                         | 846.6 | Rear          | Fig.13     | 23.33                 | 24                       | 0.379                       | <b>0.44</b>             | 0.238                    | <b>0.28</b>              | 0.03             |  |
| 4183                         | 836.6 | Rear          | /          | 23.38                 | 24                       | 0.335                       | <b>0.39</b>             | 0.212                    | <b>0.24</b>              | 0.13             |  |
| 4132                         | 826.4 | Rear          | /          | 23.41                 | 24                       | 0.331                       | <b>0.38</b>             | 0.248                    | <b>0.28</b>              | 0.02             |  |
| 4183                         | 836.6 | Left          | /          | 23.38                 | 24                       | 0.254                       | <b>0.29</b>             | 0.174                    | <b>0.20</b>              | 0.15             |  |
| 4183                         | 836.6 | Right         | /          | 23.38                 | 24                       | 0.284                       | <b>0.33</b>             | 0.193                    | <b>0.22</b>              | -0.01            |  |
| 4183                         | 836.6 | Bottom        | /          | 23.38                 | 24                       | 0.102                       | <b>0.12</b>             | 0.059                    | <b>0.07</b>              | 0.09             |  |

Note: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.1-14: SAR Values (LTE Band2 - Head)**

| Ambient Temperature: 22.9 °C |      |          |       |               |            | Liquid Temperature: 22.5 °C |                          |                         |                         |                          |                          |                  |
|------------------------------|------|----------|-------|---------------|------------|-----------------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Frequency                    |      | Mode     | Side  | Test Position | Figure No. | Conducted Power (dBm)       | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
| Ch.                          | MHz  |          |       |               |            |                             |                          |                         |                         |                          |                          |                  |
| 19100                        | 1900 | 1RB-Mid  | Left  | Cheek         | /          | 23.88                       | 24.5                     | 0.218                   | <b>0.25</b>             | 0.137                    | <b>0.16</b>              | 0.12             |
| 19100                        | 1900 | 1RB-Mid  | Left  | Tilt          | Fig.14     | 23.88                       | 24.5                     | 0.224                   | <b>0.26</b>             | 0.14                     | <b>0.16</b>              | -0.04            |
| 19100                        | 1900 | 1RB-Mid  | Right | Cheek         | /          | 23.88                       | 24.5                     | 0.136                   | <b>0.16</b>             | 0.087                    | <b>0.10</b>              | -0.15            |
| 19100                        | 1900 | 1RB-Mid  | Right | Tilt          | /          | 23.88                       | 24.5                     | 0.128                   | <b>0.15</b>             | 0.083                    | <b>0.10</b>              | -0.16            |
| 19100                        | 1900 | 50RB-Mid | Left  | Cheek         | /          | 22.5                        | 23.5                     | 0.165                   | <b>0.21</b>             | 0.106                    | <b>0.13</b>              | 0.07             |
| 19100                        | 1900 | 50RB-Mid | Left  | Tilt          | /          | 22.5                        | 23.5                     | 0.166                   | <b>0.21</b>             | 0.104                    | <b>0.13</b>              | 0.04             |
| 19100                        | 1900 | 50RB-Mid | Right | Cheek         | /          | 22.5                        | 23.5                     | 0.102                   | <b>0.13</b>             | 0.066                    | <b>0.08</b>              | -0.14            |
| 19100                        | 1900 | 50RB-Mid | Right | Tilt          | /          | 22.5                        | 23.5                     | 0.096                   | <b>0.12</b>             | 0.063                    | <b>0.08</b>              | -0.01            |

Note1: The LTE mode is QPSK\_20MHz.



**Table 14.1-15: SAR Values (LTE Band2 – Body Worn)**

| Frequency |      | Mode           | Figure No. | Conduct ed Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g ) (W/kg) | Power Drift (dB) |
|-----------|------|----------------|------------|------------------------|--------------------------|-------------------------|-------------------------|--------------------------|---------------------------|------------------|
| Ch.       | MHz  |                |            |                        |                          |                         |                         |                          |                           |                  |
| 19100     | 1900 | 1RB-Mid Front  | /          | 22.69                  | 23.5                     | 0.248                   | <b>0.30</b>             | 0.144                    | <b>0.17</b>               | 0.15             |
| 19100     | 1900 | 1RB-Mid Rear   | Fig.15     | 22.69                  | 23.5                     | 0.281                   | <b>0.34</b>             | 0.165                    | <b>0.20</b>               | -0.13            |
| 19100     | 1900 | 50RB-Low Front | /          | 22.7                   | 23.5                     | 0.244                   | <b>0.29</b>             | 0.141                    | <b>0.17</b>               | 0.06             |
| 19100     | 1900 | 50RB-Low Rear  | /          | 22.7                   | 23.5                     | 0.271                   | <b>0.33</b>             | 0.161                    | <b>0.19</b>               | -0.03            |

Note1: The distance between the EUT and the phantom bottom is 15mm

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-16: SAR Values (LTE Band2 - Hotspot)**

| Frequency |      | Mode            | Figure No. | Conduct ed Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g ) (W/kg) | Power Drift (dB) |
|-----------|------|-----------------|------------|------------------------|--------------------------|-------------------------|-------------------------|--------------------------|---------------------------|------------------|
| Ch.       | MHz  |                 |            |                        |                          |                         |                         |                          |                           |                  |
| 19100     | 1900 | 1RB-Mid Front   | /          | 21.3                   | 23                       | 0.365                   | <b>0.54</b>             | 0.211                    | <b>0.31</b>               | -0.07            |
| 19100     | 1900 | 1RB-Mid Rear    | /          | 21.3                   | 23                       | 0.356                   | <b>0.53</b>             | 0.21                     | <b>0.31</b>               | -0.1             |
| 19100     | 1900 | 1RB-Mid Left    | /          | 21.3                   | 23                       | 0.151                   | <b>0.22</b>             | 0.092                    | <b>0.14</b>               | 0.01             |
| 19100     | 1900 | 1RB-Mid Right   | /          | 21.3                   | 23                       | 0.067                   | <b>0.10</b>             | 0.04                     | <b>0.06</b>               | 0.06             |
| 18700     | 1860 | 1RB-Mid Bottom  | Fig.16     | 21.3                   | 23                       | 0.738                   | <b>1.09</b>             | 0.384                    | <b>0.57</b>               | 0.04             |
| 18900     | 1880 | 1RB-Mid Bottom  | /          | 21.21                  | 23                       | 0.662                   | <b>1.00</b>             | 0.346                    | <b>0.52</b>               | 0.06             |
| 19100     | 1900 | 1RB-Mid Bottom  | /          | 21.25                  | 23                       | 0.622                   | <b>0.93</b>             | 0.327                    | <b>0.49</b>               | -0.15            |
| 18700     | 1860 | 100RB Bottom    | /          | 21.23                  | 23                       | 0.712                   | <b>1.07</b>             | 0.374                    | <b>0.56</b>               | 0.05             |
| 19100     | 1900 | 50RB-Mid Front  | /          | 21.29                  | 23                       | 0.358                   | <b>0.53</b>             | 0.207                    | <b>0.31</b>               | 0.17             |
| 19100     | 1900 | 50RB-Mid Rear   | /          | 21.29                  | 23                       | 0.342                   | <b>0.51</b>             | 0.202                    | <b>0.30</b>               | 0.14             |
| 19100     | 1900 | 50RB-Mid Left   | /          | 21.29                  | 23                       | 0.147                   | <b>0.22</b>             | 0.089                    | <b>0.13</b>               | -0.04            |
| 19100     | 1900 | 50RB-Mid Right  | /          | 21.29                  | 23                       | 0.069                   | <b>0.10</b>             | 0.04                     | <b>0.06</b>               | -0.09            |
| 19100     | 1900 | 50RB-Mid Bottom | /          | 21.29                  | 23                       | 0.614                   | <b>0.91</b>             | 0.322                    | <b>0.48</b>               | 0.04             |
| 18700     | 1860 | 50RB-Mid Bottom | /          | 21.23                  | 23                       | 0.712                   | <b>1.07</b>             | 0.371                    | <b>0.56</b>               | -0.05            |
| 18900     | 1880 | 50RB-Mid Bottom | /          | 21.18                  | 23                       | 0.654                   | <b>0.99</b>             | 0.334                    | <b>0.51</b>               | -0.07            |

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-17: SAR Values (LTE Band5 - Head)**

| Frequency |     | Ambient Temperature: 22.9 °C |       |               |            |                       | Liquid Temperature: 22.5°C |                         |                         |                          |                           |                  |
|-----------|-----|------------------------------|-------|---------------|------------|-----------------------|----------------------------|-------------------------|-------------------------|--------------------------|---------------------------|------------------|
| Ch.       | MHz | Mode                         | Side  | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm)   | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g ) (W/kg) | Power Drift (dB) |
| 20600     | 844 | 1RB-Mid                      | Left  | Cheek         | Fig.17     | 24.24                 | 25                         | 0.39                    | <b>0.46</b>             | 0.305                    | <b>0.36</b>               | 0.05             |
| 20600     | 844 | 1RB-Mid                      | Left  | Tilt          | /          | 24.24                 | 25                         | 0.257                   | <b>0.31</b>             | 0.191                    | <b>0.23</b>               | 0.01             |
| 20600     | 844 | 1RB-Mid                      | Right | Cheek         | /          | 24.24                 | 25                         | 0.312                   | <b>0.37</b>             | 0.227                    | <b>0.27</b>               | 0.03             |
| 20600     | 844 | 1RB-Mid                      | Right | Tilt          | /          | 24.24                 | 25                         | 0.279                   | <b>0.33</b>             | 0.198                    | <b>0.24</b>               | 0.08             |
| 20600     | 844 | 25RB-Mid                     | Left  | Cheek         | /          | 23.16                 | 24                         | 0.297                   | <b>0.36</b>             | 0.208                    | <b>0.25</b>               | -0.1             |
| 20600     | 844 | 25RB-Mid                     | Left  | Tilt          | /          | 23.16                 | 24                         | 0.193                   | <b>0.23</b>             | 0.142                    | <b>0.17</b>               | -0.04            |
| 20600     | 844 | 25RB-Mid                     | Right | Cheek         | /          | 23.16                 | 24                         | 0.229                   | <b>0.28</b>             | 0.167                    | <b>0.20</b>               | -0.01            |
| 20600     | 844 | 25RB-Mid                     | Right | Tilt          | /          | 23.16                 | 24                         | 0.209                   | <b>0.25</b>             | 0.148                    | <b>0.18</b>               | -0.18            |
| 20450     | 829 | UL CA                        | Left  | Cheek         | /          | 23.96                 | 25                         | 0.332                   | <b>0.42</b>             | 0.268                    | <b>0.34</b>               | 0.16             |

Note1: The LTE mode is QPSK\_10MHz.

**Table 14.1-18: SAR Values (LTE Band5 - Body)**

| Frequency |     | Ambient Temperature: 22.9 °C |            |                       |                          |                         | Liquid Temperature: 22.5°C |                          |                           |                  |  |
|-----------|-----|------------------------------|------------|-----------------------|--------------------------|-------------------------|----------------------------|--------------------------|---------------------------|------------------|--|
| Ch.       | MHz | Mode                         | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg)    | Measured SAR(10g) (W/kg) | Reported SAR(10g ) (W/kg) | Power Drift (dB) |  |
| 20600     | 844 | 1RB-Mid Front                | /          | 24.24                 | 25                       | 0.335                   | <b>0.40</b>                | 0.243                    | <b>0.29</b>               | 0.17             |  |
| 20600     | 844 | 1RB-Mid Rear                 | Fig.18     | 24.24                 | 25                       | 0.4                     | <b>0.48</b>                | 0.254                    | <b>0.30</b>               | -0.02            |  |
| 20600     | 844 | 1RB-Mid Left                 | /          | 24.24                 | 25                       | 0.337                   | <b>0.40</b>                | 0.221                    | <b>0.26</b>               | 0.11             |  |
| 20600     | 844 | 1RB-Mid Right                | /          | 24.24                 | 25                       | 0.366                   | <b>0.44</b>                | 0.238                    | <b>0.28</b>               | -0.05            |  |
| 20600     | 844 | 1RB-Mid Bottom               | /          | 24.24                 | 25                       | 0.115                   | <b>0.14</b>                | 0.062                    | <b>0.07</b>               | -0.1             |  |
| 20600     | 844 | 25RB-Mid Front               | /          | 23.16                 | 24                       | 0.263                   | <b>0.32</b>                | 0.19                     | <b>0.23</b>               | -0.06            |  |
| 20600     | 844 | 25RB-Mid Rear                | /          | 23.16                 | 24                       | 0.334                   | <b>0.41</b>                | 0.205                    | <b>0.25</b>               | -0.02            |  |
| 20600     | 844 | 25RB-Mid Left                | /          | 23.16                 | 24                       | 0.275                   | <b>0.33</b>                | 0.179                    | <b>0.22</b>               | -0.05            |  |
| 20600     | 844 | 25RB-Mid Right               | /          | 23.16                 | 24                       | 0.288                   | <b>0.35</b>                | 0.188                    | <b>0.23</b>               | 0.15             |  |
| 20600     | 844 | 25RB-Mid Bottom              | /          | 23.16                 | 24                       | 0.088                   | <b>0.11</b>                | 0.048                    | <b>0.06</b>               | 0.12             |  |
| 20450     | 829 | UL CA Rear                   | /          | 23.96                 | 25                       | 0.347                   | <b>0.44</b>                | 0.224                    | <b>0.28</b>               | 0.13             |  |

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK\_10MHz.

**Table 14.1-19: SAR Values (LTE Band12 - Head)**

| Frequency |     | Ambient Temperature: 22.9 °C |       |               |            |                       | Liquid Temperature: 22.5°C |                         |                         |                          |                          |                  |
|-----------|-----|------------------------------|-------|---------------|------------|-----------------------|----------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.       | MHz | Mode                         | Side  | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm)   | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
| 23060     | 704 | 1RB-Mid                      | Left  | Cheek         | Fig.19     | 24.02                 | 25                         | 0.239                   | <b>0.30</b>             | 0.192                    | <b>0.24</b>              | -0.07            |
| 23060     | 704 | 1RB-Mid                      | Left  | Tilt          | /          | 24.02                 | 25                         | 0.203                   | <b>0.25</b>             | 0.168                    | <b>0.21</b>              | 0.01             |
| 23060     | 704 | 1RB-Mid                      | Right | Cheek         | /          | 24.02                 | 25                         | 0.231                   | <b>0.29</b>             | 0.185                    | <b>0.23</b>              | 0.09             |
| 23060     | 704 | 1RB-Mid                      | Right | Tilt          | /          | 24.02                 | 25                         | 0.14                    | <b>0.18</b>             | 0.113                    | <b>0.14</b>              | -0.01            |
| 23060     | 704 | 25RB-High                    | Left  | Cheek         | /          | 23.01                 | 24                         | 0.184                   | <b>0.23</b>             | 0.147                    | <b>0.18</b>              | 0.13             |
| 23060     | 704 | 25RB-High                    | Left  | Tilt          | /          | 23.01                 | 24                         | 0.153                   | <b>0.19</b>             | 0.124                    | <b>0.16</b>              | 0.13             |
| 23060     | 704 | 25RB-High                    | Right | Cheek         | /          | 23.01                 | 24                         | 0.179                   | <b>0.22</b>             | 0.144                    | <b>0.18</b>              | -0.1             |
| 23060     | 704 | 25RB-High                    | Right | Tilt          | /          | 23.01                 | 24                         | 0.105                   | <b>0.13</b>             | 0.087                    | <b>0.11</b>              | -0.05            |

Note1: The LTE mode is QPSK\_10MHz.

**Table 14.1-20: SAR Values (LTE Band12 - Body)**

| Frequency |     | Ambient Temperature: 22.9 °C |            |                       |                          |                         | Liquid Temperature: 22.5°C |                          |                          |                  |  |
|-----------|-----|------------------------------|------------|-----------------------|--------------------------|-------------------------|----------------------------|--------------------------|--------------------------|------------------|--|
| Ch.       | MHz | Mode                         | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg)    | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |  |
| 23060     | 704 | 1RB-Mid Front                | /          | 24.02                 | 25                       | 0.308                   | <b>0.39</b>                | 0.241                    | <b>0.30</b>              | -0.16            |  |
| 23060     | 704 | 1RB-Mid Rear                 | Fig.20     | 24.02                 | 25                       | 0.428                   | <b>0.54</b>                | 0.336                    | <b>0.42</b>              | -0.09            |  |
| 23060     | 704 | 1RB-Mid Left                 | /          | 24.02                 | 25                       | 0.352                   | <b>0.44</b>                | 0.255                    | <b>0.32</b>              | -0.09            |  |
| 23060     | 704 | 1RB-Mid Right                | /          | 24.02                 | 25                       | 0.395                   | <b>0.49</b>                | 0.287                    | <b>0.36</b>              | 0.13             |  |
| 23060     | 704 | 1RB-Mid Bottom               | /          | 24.02                 | 25                       | <0.01                   | <0.01                      | <0.01                    | <0.01                    | /                |  |
| 23060     | 704 | 25RB-High Front              | /          | 23.01                 | 24                       | 0.23                    | <b>0.29</b>                | 0.18                     | <b>0.23</b>              | 0.02             |  |
| 23060     | 704 | 25RB-High Rear               | /          | 23.01                 | 24                       | 0.324                   | <b>0.41</b>                | 0.254                    | <b>0.32</b>              | 0.14             |  |
| 23060     | 704 | 25RB-High Left               | /          | 23.01                 | 24                       | 0.265                   | <b>0.33</b>                | 0.192                    | <b>0.24</b>              | 0.04             |  |
| 23060     | 704 | 25RB-High Right              | /          | 23.01                 | 24                       | 0.305                   | <b>0.38</b>                | 0.221                    | <b>0.28</b>              | 0.11             |  |
| 23060     | 704 | 25RB-High Bottom             | /          | 23.01                 | 24                       | <0.01                   | <0.01                      | <0.01                    | <0.01                    | /                |  |

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK\_10MHz.

**Table 14.1-21: SAR Values (LTE Band13 - Head)**

| Frequency  |     | Mode     | Side  | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|--|-----|----------|-------|---------------|------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.  | MHz |          |       |               |            |                       |                          |                         |                         |                          |                          |                  |
| Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5°C |     |          |       |               |            |                       |                          |                         |                         |                          |                          |                  |
| 23230  | 782 | 1RB-Mid  | Left  | Cheek         | Fig.21     | 23.97                 | 25                       | 0.317                   | <b>0.40</b>             | 0.247                    | <b>0.31</b>              | 0.09             |
| 23230  | 782 | 1RB-Mid  | Left  | Tilt          | /          | 23.97                 | 25                       | 0.214                   | <b>0.27</b>             | 0.176                    | <b>0.22</b>              | -0.09            |
| 23230  | 782 | 1RB-Mid  | Right | Cheek         | /          | 23.97                 | 25                       | 0.236                   | <b>0.30</b>             | 0.187                    | <b>0.24</b>              | -0.03            |
| 23230  | 782 | 1RB-Mid  | Right | Tilt          | /          | 23.97                 | 25                       | 0.233                   | <b>0.30</b>             | 0.187                    | <b>0.24</b>              | -0.07            |
| 23230  | 782 | 25RB-Mid | Left  | Cheek         | /          | 22.97                 | 24                       | 0.306                   | <b>0.39</b>             | 0.238                    | <b>0.30</b>              | -0.08            |
| 23230  | 782 | 25RB-Mid | Left  | Tilt          | /          | 22.97                 | 24                       | 0.213                   | <b>0.27</b>             | 0.174                    | <b>0.22</b>              | -0.17            |
| 23230  | 782 | 25RB-Mid | Right | Cheek         | /          | 22.97                 | 24                       | 0.223                   | <b>0.28</b>             | 0.176                    | <b>0.22</b>              | -0.1             |
| 23230  | 782 | 25RB-Mid | Right | Tilt          | /          | 22.97                 | 24                       | 0.217                   | <b>0.28</b>             | 0.174                    | <b>0.22</b>              | 0.06             |

Note1: The LTE mode is QPSK\_10MHz.

**Table 14.1-22: SAR Values (LTE Band13 - Body)**

| Frequency  |     | Mode             | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|--|-----|------------------|------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.  | MHz |                  |            |                       |                          |                         |                         |                          |                          |                  |
| Ambient Temperature: 22.9 °C      Liquid Temperature: 22.5°C |     |                  |            |                       |                          |                         |                         |                          |                          |                  |
| 23060  | 704 | 1RB-Mid Front    | /          | 23.97                 | 25                       | 0.32                    | <b>0.41</b>             | 0.242                    | <b>0.31</b>              | 0.07             |
| 23060  | 704 | 1RB-Mid Rear     | Fig.22     | 23.97                 | 25                       | 0.409                   | <b>0.52</b>             | 0.31                     | <b>0.39</b>              | -0.01            |
| 23060  | 704 | 1RB-Mid Left     | /          | 23.97                 | 25                       | 0.335                   | <b>0.42</b>             | 0.231                    | <b>0.29</b>              | -0.14            |
| 23060  | 704 | 1RB-Mid Right    | /          | 23.97                 | 25                       | 0.365                   | <b>0.46</b>             | 0.254                    | <b>0.32</b>              | 0.17             |
| 23060  | 704 | 1RB-Mid Bottom   | /          | 23.97                 | 25                       | 0.069                   | <b>0.09</b>             | 0.037                    | <b>0.05</b>              | -0.07            |
| 23060  | 704 | 25RB-High Front  | /          | 22.97                 | 24                       | 0.299                   | <b>0.38</b>             | 0.226                    | <b>0.29</b>              | 0.11             |
| 23060  | 704 | 25RB-High Rear   | /          | 22.97                 | 24                       | 0.378                   | <b>0.48</b>             | 0.287                    | <b>0.36</b>              | 0.03             |
| 23060  | 704 | 25RB-High Left   | /          | 22.97                 | 24                       | 0.318                   | <b>0.40</b>             | 0.22                     | <b>0.28</b>              | 0.05             |
| 23060  | 704 | 25RB-High Right  | /          | 22.97                 | 24                       | 0.354                   | <b>0.45</b>             | 0.245                    | <b>0.31</b>              | 0.05             |
| 23060  | 704 | 25RB-High Bottom | /          | 22.97                 | 24                       | 0.069                   | <b>0.09</b>             | 0.037                    | <b>0.05</b>              | -0.06            |

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK\_10MHz.

**Table 14.1-23: SAR Values (LTE Band41 PC3 - Head)**

| Frequency |      | Ambient Temperature: 22.9 °C |       |               |            |                        | Liquid Temperature: 22.5 °C |                         |                         |                          |                           |                  |
|-----------|------|------------------------------|-------|---------------|------------|------------------------|-----------------------------|-------------------------|-------------------------|--------------------------|---------------------------|------------------|
| Ch.       | MHz  | Mode                         | Side  | Test Position | Figure No. | Conduct ed Power (dBm) | Max. tune-up Power (dBm)    | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g ) (W/kg) | Power Drift (dB) |
| 41490     | 2680 | 1RB-Mid                      | Left  | Cheek         | /          | 23.44                  | 24                          | 0.043                   | <b>0.05</b>             | 0.025                    | <b>0.03</b>               | 0.12             |
| 41490     | 2680 | 1RB-Mid                      | Left  | Tilt          | /          | 23.44                  | 24                          | 0.044                   | <b>0.05</b>             | 0.021                    | <b>0.02</b>               | -0.06            |
| 41490     | 2680 | 1RB-Mid                      | Right | Cheek         | Fig.23     | 23.44                  | 24                          | 0.069                   | <b>0.08</b>             | 0.033                    | <b>0.04</b>               | 0.02             |
| 41490     | 2680 | 1RB-Mid                      | Right | Tilt          | /          | 23.44                  | 24                          | 0                       | <b>0.00</b>             | 0                        | <b>0.00</b>               | /                |
| 41490     | 2680 | 50RB-Mid                     | Left  | Cheek         | /          | 22.41                  | 23                          | 0                       | <b>0.00</b>             | 0                        | <b>0.00</b>               | /                |
| 41490     | 2680 | 50RB-Mid                     | Left  | Tilt          | /          | 22.41                  | 23                          | 0                       | <b>0.00</b>             | 0                        | <b>0.00</b>               | /                |
| 41490     | 2680 | 50RB-Mid                     | Right | Cheek         | /          | 22.41                  | 23                          | 0.05                    | <b>0.06</b>             | 0.025                    | <b>0.03</b>               | 0.07             |
| 41490     | 2680 | 50RB-Mid                     | Right | Tilt          | /          | 22.41                  | 23                          | 0                       | <b>0.00</b>             | 0                        | <b>0.00</b>               | /                |

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.1-24: SAR Values (LTE Band41 PC2 – Body worn)**

| Frequency |      | Ambient Temperature: 22.9 °C |            |                        |                          | Liquid Temperature: 22.5 °C |                         |                          |                           |                  |
|-----------|------|------------------------------|------------|------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|---------------------------|------------------|
| Ch.       | MHz  | Mode                         | Figure No. | Conduct ed Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg)     | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g ) (W/kg) | Power Drift (dB) |
| 41490     | 2680 | 1RB-Mid Front                | /          | 23.44                  | 24                       | 0.338                       | <b>0.38</b>             | 0.166                    | <b>0.19</b>               | 0.08             |
| 41490     | 2680 | 1RB-Mid Rear                 | Fig.24     | 23.44                  | 24                       | 0.548                       | <b>0.62</b>             | 0.257                    | <b>0.29</b>               | -0.12            |
| 41490     | 2680 | 50RB-Mid Front               | /          | 22.41                  | 23                       | 0.266                       | <b>0.30</b>             | 0.131                    | <b>0.15</b>               | -0.12            |
| 41490     | 2680 | 50RB-Mid Rear                | /          | 22.41                  | 23                       | 0.425                       | <b>0.49</b>             | 0.2                      | <b>0.23</b>               | -0.02            |

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-25: SAR Values (LTE Band41 PC3 – Hotspot)**

| Frequency |        | Mode            | Figure No. | Conduct ed Power (dBm) | Ambient Temperature: 22.9 °C |                         | Liquid Temperature: 22.5°C |                          |                           |                  |
|-----------|--------|-----------------|------------|------------------------|------------------------------|-------------------------|----------------------------|--------------------------|---------------------------|------------------|
| Ch.       | MHz    |                 |            |                        | Max. tune-up Power (dBm)     | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg)    | Measured SAR(10g) (W/kg) | Reported SAR(10g ) (W/kg) | Power Drift (dB) |
| 41490     | 2680   | 1RB-Mid Front   | /          | 20.9                   | 21.5                         | 0.256                   | <b>0.29</b>                | 0.123                    | <b>0.14</b>               | -0.14            |
| 41490     | 2680   | 1RB-Mid Rear    | Fig.25     | 20.9                   | 21.5                         | 0.52                    | <b>0.60</b>                | 0.228                    | <b>0.26</b>               | -0.1             |
| 41490     | 2680   | 1RB-Mid Left    | /          | 20.9                   | 21.5                         | 0                       | <b>0.00</b>                | 0                        | <b>0.00</b>               | /                |
| 41490     | 2680   | 1RB-Mid Right   | /          | 20.9                   | 21.5                         | 0.065                   | <b>0.07</b>                | 0.036                    | <b>0.04</b>               | 0.18             |
| 41490     | 2680   | 1RB-Mid Bottom  | /          | 20.9                   | 21.5                         | 0.715                   | <b>0.82</b>                | 0.315                    | <b>0.36</b>               | 0.02             |
| 41055     | 2636.5 | 1RB-Mid Bottom  | /          | 20.85                  | 21.5                         | 1                       | <b>1.16</b>                | 0.438                    | <b>0.51</b>               | 0.13             |
| 40620     | 2593   | 1RB-Mid Bottom  | /          | 20.89                  | 21.5                         | 0.988                   | <b>1.14</b>                | 0.436                    | <b>0.50</b>               | -0.14            |
| 40185     | 2549.5 | 1RB-Mid Bottom  | /          | 20.71                  | 21.5                         | 0.787                   | <b>0.94</b>                | 0.33                     | <b>0.40</b>               | 0.15             |
| 39750     | 2506   | 1RB-Mid Bottom  | /          | 20.84                  | 21.5                         | 0.523                   | <b>0.61</b>                | 0.22                     | <b>0.26</b>               | 0.16             |
| 41490     | 2680   | 50RB-Mid Front  | /          | 20.91                  | 21.5                         | 0.249                   | <b>0.29</b>                | 0.119                    | <b>0.14</b>               | -0.14            |
| 41490     | 2680   | 50RB-Mid Rear   | /          | 20.91                  | 21.5                         | 0.504                   | <b>0.58</b>                | 0.223                    | <b>0.26</b>               | 0.04             |
| 41490     | 2680   | 50RB-Mid Left   | /          | 20.91                  | 21.5                         | 0                       | <b>0.00</b>                | 0                        | <b>0.00</b>               | /                |
| 41490     | 2680   | 50RB-Mid Right  | /          | 20.91                  | 21.5                         | 0.061                   | <b>0.07</b>                | 0.034                    | <b>0.04</b>               | 0.03             |
| 41490     | 2680   | 50RB-Mid Bottom | /          | 21.05                  | 21.5                         | 0.704                   | <b>0.78</b>                | 0.308                    | <b>0.34</b>               | -0.11            |
| 41055     | 2636.5 | 50RB-Mid Bottom | /          | 20.86                  | 21.5                         | 1.01                    | <b>1.17</b>                | 0.431                    | <b>0.50</b>               | 0.04             |
| 40620     | 2593   | 50RB-Mid Bottom | /          | 21.02                  | 21.5                         | 1.06                    | <b>1.18</b>                | 0.446                    | <b>0.50</b>               | -0.05            |
| 40185     | 2549.5 | 50RB-Mid Bottom | /          | 20.8                   | 21.5                         | 0.78                    | <b>0.92</b>                | 0.326                    | <b>0.38</b>               | 0.09             |
| 39750     | 2506   | 50RB-Mid Bottom | /          | 20.75                  | 21.5                         | 0.516                   | <b>0.61</b>                | 0.218                    | <b>0.26</b>               | -0.11            |
| 40620     | 2593   | 100RB Bottom    | /          | 20.98                  | 21.5                         | 1.02                    | <b>1.15</b>                | 0.427                    | <b>0.48</b>               | -0.05            |

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-26: SAR Values (LTE Band41 PC2 - Head)**

| Frequency |      | Mode     | Side  | Test Position | Figure No. | Ambient Temperature: 22.9 °C |                          | Liquid Temperature: 22.5°C |                         |                          |                           |                  |
|-----------|------|----------|-------|---------------|------------|------------------------------|--------------------------|----------------------------|-------------------------|--------------------------|---------------------------|------------------|
| Ch.       | MHz  |          |       |               |            | Conduct ed Power (dBm)       | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg)    | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g ) (W/kg) | Power Drift (dB) |
| 41490     | 2680 | 1RB-Mid  | Left  | Cheek         | /          | 26.46                        | 27                       | 0.066                      | <b>0.07</b>             | 0.038                    | <b>0.04</b>               | -0.11            |
| 41490     | 2680 | 1RB-Mid  | Left  | Tilt          | /          | 26.46                        | 27                       | 0.074                      | <b>0.08</b>             | 0.036                    | <b>0.04</b>               | -0.06            |
| 41490     | 2680 | 1RB-Mid  | Right | Cheek         | Fig.26     | 26.46                        | 27                       | 0.0979                     | <b>0.11</b>             | 0.05                     | <b>0.06</b>               | 0.05             |
| 41490     | 2680 | 1RB-Mid  | Right | Tilt          | /          | 26.46                        | 27                       | 0                          | <b>0.00</b>             | 0                        | <b>0.00</b>               | /                |
| 41490     | 2680 | 50RB-Mid | Left  | Cheek         | /          | 25.46                        | 26                       | 0.051                      | <b>0.06</b>             | 0.029                    | <b>0.03</b>               | 0.12             |
| 41490     | 2680 | 50RB-Mid | Left  | Tilt          | /          | 25.46                        | 26                       | 0.062                      | <b>0.07</b>             | 0.031                    | <b>0.04</b>               | -0.11            |
| 41490     | 2680 | 50RB-Mid | Right | Cheek         | /          | 25.46                        | 26                       | 0.068                      | <b>0.08</b>             | 0.034                    | <b>0.04</b>               | 0.06             |
| 41490     | 2680 | 50RB-Mid | Right | Tilt          | /          | 25.46                        | 26                       | 0                          | <b>0.00</b>             | 0                        | <b>0.00</b>               | /                |

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.1-27: SAR Values (LTE Band41 PC2 – Body worn)**

| Frequency |      | Mode           | Figure No. | Conduct ed Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g ) (W/kg) | Power Drift (dB) |
|-----------|------|----------------|------------|------------------------|--------------------------|-------------------------|-------------------------|--------------------------|---------------------------|------------------|
| Ch.       | MHz  |                |            |                        |                          |                         |                         |                          |                           |                  |
| 41490     | 2680 | 1RB-Mid Front  | /          | 25.58                  | 26                       | 0.283                   | <b>0.31</b>             | 0.14                     | <b>0.15</b>               | -0.06            |
| 41490     | 2680 | 1RB-Mid Rear   | Fig.27     | 25.58                  | 26                       | 0.528                   | <b>0.58</b>             | 0.25                     | <b>0.28</b>               | 0.05             |
| 41490     | 2680 | 50RB-Mid Front | /          | 25.57                  | 26                       | 0.292                   | <b>0.32</b>             | 0.141                    | <b>0.16</b>               | 0.07             |
| 41490     | 2680 | 50RB-Mid Rear  | /          | 25.57                  | 26                       | 0.511                   | <b>0.56</b>             | 0.241                    | <b>0.27</b>               | -0.15            |

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-28 SAR Values (LTE Band41 PC2 – Hotspot)**

| Frequency |        | Mode            | Figure No. | Conduct ed Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g ) (W/kg) | Power Drift (dB) |
|-----------|--------|-----------------|------------|------------------------|--------------------------|-------------------------|-------------------------|--------------------------|---------------------------|------------------|
| Ch.       | MHz    |                 |            |                        |                          |                         |                         |                          |                           |                  |
| 41490     | 2680   | 1RB-Mid Front   | /          | 23                     | 23                       | 0.327                   | <b>0.33</b>             | 0.153                    | <b>0.15</b>               | 0.12             |
| 41490     | 2680   | 1RB-Mid Rear    | /          | 23                     | 23                       | 0.621                   | <b>0.62</b>             | 0.281                    | <b>0.28</b>               | -0.02            |
| 41055     | 2636.5 | 1RB-Mid Rear    | /          | 22.82                  | 23                       | 0.787                   | <b>0.82</b>             | 0.335                    | <b>0.35</b>               | 0.11             |
| 40620     | 2593   | 1RB-Mid Rear    | /          | 22.96                  | 23                       | 0.821                   | <b>0.83</b>             | 0.357                    | <b>0.36</b>               | 0.01             |
| 40185     | 2549.5 | 1RB-Mid Rear    | /          | 22.8                   | 23                       | 0.602                   | <b>0.63</b>             | 0.269                    | <b>0.28</b>               | 0.1              |
| 39750     | 2506   | 1RB-Mid Rear    | /          | 22.87                  | 23                       | 0.433                   | <b>0.45</b>             | 0.193                    | <b>0.20</b>               | -0.06            |
| 40620     | 2593   | 100RB Rear      | /          | 22.88                  | 23                       | 0.789                   | <b>0.81</b>             | 0.341                    | <b>0.35</b>               | -0.09            |
| 41490     | 2680   | 1RB-Mid Left    | /          | 23                     | 23                       | 0.035                   | <b>0.04</b>             | 0.02                     | <b>0.02</b>               | 0.09             |
| 41490     | 2680   | 1RB-Mid Right   | /          | 23                     | 23                       | 0.068                   | <b>0.07</b>             | 0.037                    | <b>0.04</b>               | -0.03            |
| 41490     | 2680   | 1RB-Mid Bottom  | /          | 23                     | 23                       | 0.766                   | <b>0.77</b>             | 0.337                    | <b>0.34</b>               | -0.18            |
| 41055     | 2636.5 | 1RB-Mid Bottom  | /          | 22.82                  | 23                       | 1.08                    | <b>1.13</b>             | 0.469                    | <b>0.49</b>               | -0.18            |
| 40620     | 2593   | 1RB-Mid Bottom  | /          | 22.96                  | 23                       | 1.15                    | <b>1.16</b>             | 0.494                    | <b>0.50</b>               | -0.01            |
| 40185     | 2549.5 | 1RB-Mid Bottom  | /          | 22.8                   | 23                       | 0.832                   | <b>0.87</b>             | 0.358                    | <b>0.37</b>               | 0.16             |
| 39750     | 2506   | 1RB-Mid Bottom  | /          | 22.87                  | 23                       | 0.547                   | <b>0.56</b>             | 0.236                    | <b>0.24</b>               | 0.08             |
| 41490     | 2680   | 50RB-Mid Front  | /          | 22.95                  | 23                       | 0.311                   | <b>0.31</b>             | 0.147                    | <b>0.15</b>               | -0.12            |
| 41490     | 2680   | 50RB-Mid Rear   | /          | 22.95                  | 23                       | 0.616                   | <b>0.62</b>             | 0.279                    | <b>0.28</b>               | 0.06             |
| 41490     | 2680   | 50RB-Mid Left   | /          | 22.95                  | 23                       | 0.035                   | <b>0.04</b>             | 0.02                     | <b>0.02</b>               | 0.08             |
| 41490     | 2680   | 50RB-Mid Right  | /          | 22.95                  | 23                       | 0.067                   | <b>0.07</b>             | 0.037                    | <b>0.04</b>               | -0.17            |
| 41490     | 2680   | 50RB-Mid Bottom | /          | 22.95                  | 23                       | 0.771                   | <b>0.78</b>             | 0.338                    | <b>0.34</b>               | -0.05            |
| 41055     | 2636.5 | 50RB-Low Bottom | /          | 22.8                   | 23                       | 1.11                    | <b>1.16</b>             | 0.469                    | <b>0.49</b>               | 0.09             |
| 40620     | 2593   | 50RB-Low Bottom | Fig.28     | 22.93                  | 23                       | 1.17                    | <b>1.19</b>             | 0.489                    | <b>0.50</b>               | -0.08            |
| 40185     | 2549.5 | 50RB-Mid Bottom | /          | 22.71                  | 23                       | 0.865                   | <b>0.92</b>             | 0.36                     | <b>0.38</b>               | -0.09            |
| 39750     | 2506   | 50RB-Low Bottom | /          | 22.81                  | 23                       | 0.572                   | <b>0.60</b>             | 0.239                    | <b>0.25</b>               | -0.16            |

|       |      |              |   |       |    |      |             |       |             |      |
|-------|------|--------------|---|-------|----|------|-------------|-------|-------------|------|
| 40620 | 2593 | 100RB Bottom | / | 22.88 | 23 | 1.13 | <b>1.16</b> | 0.472 | <b>0.49</b> | 0.03 |
|-------|------|--------------|---|-------|----|------|-------------|-------|-------------|------|

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-29: SAR Values (LTE Band66 - Head)**

| Frequency   |      | Mode      | Side  | Test Position | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|---|------|-----------|-------|---------------|------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.   | MHz  |           |       |               |            |                       |                          |                         |                         |                          |                          |                  |
| Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C |      |           |       |               |            |                       |                          |                         |                         |                          |                          |                  |
| 132322  | 1745 | 1RB-Mid   | Left  | Cheek         | Fig.29     | 23.68                 | 24.5                     | 0.163                   | <b>0.20</b>             | 0.11                     | <b>0.13</b>              | 0.14             |
| 132322  | 1745 | 1RB-Mid   | Left  | Tilt          | /          | 23.68                 | 24.5                     | 0.136                   | <b>0.16</b>             | 0.088                    | <b>0.11</b>              | -0.12            |
| 132322  | 1745 | 1RB-Mid   | Right | Cheek         | /          | 23.68                 | 24.5                     | 0.12                    | <b>0.14</b>             | 0.079                    | <b>0.10</b>              | 0                |
| 132322  | 1745 | 1RB-Mid   | Right | Tilt          | /          | 23.68                 | 24.5                     | 0.105                   | <b>0.13</b>             | 0.069                    | <b>0.08</b>              | 0.01             |
| 132322  | 1745 | 50RB-Low  | Left  | Cheek         | /          | 22.71                 | 23.5                     | 0.138                   | <b>0.17</b>             | 0.092                    | <b>0.11</b>              | 0.17             |
| 132322  | 1745 | 50RB-Low  | Left  | Tilt          | /          | 22.71                 | 23.5                     | 0.098                   | <b>0.12</b>             | 0.064                    | <b>0.08</b>              | -0.08            |
| 132322  | 1745 | 50RB-Low  | Right | Cheek         | /          | 22.71                 | 23.5                     | 0.089                   | <b>0.11</b>             | 0.06                     | <b>0.07</b>              | -0.13            |
| 132322  | 1745 | 50RB-Low  | Right | Tilt          | /          | 22.71                 | 23.5                     | 0.083                   | <b>0.10</b>             | 0.055                    | <b>0.07</b>              | -0.12            |
| 132022  | 1715 | UL CA-66B | Left  | Cheek         | /          | 23.63                 | 24.5                     | 0.143                   | <b>0.17</b>             | 0.088                    | <b>0.11</b>              | 0.1              |
| 132072  | 1720 | UL CA-66C | Left  | Cheek         | /          | 23.56                 | 24.5                     | 0.124                   | <b>0.15</b>             | 0.081                    | <b>0.10</b>              | 0.09             |

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.1-30: SAR Values (LTE Band66 – Body worn)**

| Frequency   |      | Mode           | Figure No. | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Power Drift (dB) |
|---|------|----------------|------------|-----------------------|--------------------------|-------------------------|-------------------------|--------------------------|--------------------------|------------------|
| Ch.   | MHz  |                |            |                       |                          |                         |                         |                          |                          |                  |
| Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C |      |                |            |                       |                          |                         |                         |                          |                          |                  |
| 132322  | 1745 | 1RB-Mid Front  | /          | 22.42                 | 22.5                     | 0.51                    | <b>0.52</b>             | 0.29                     | <b>0.30</b>              | -0.12            |
| 132572  | 1770 | 1RB-Mid Rear   | /          | 22.38                 | 22.5                     | 0.647                   | <b>0.67</b>             | 0.362                    | <b>0.37</b>              | -0.03            |
| 132322  | 1745 | 1RB-Mid Rear   | /          | 22.42                 | 22.5                     | 0.896                   | <b>0.91</b>             | 0.499                    | <b>0.51</b>              | 0.07             |
| 132072  | 1720 | 1RB-Mid Rear   | Fig.30     | 22.37                 | 22.5                     | 1.15                    | <b>1.18</b>             | 0.637                    | <b>0.66</b>              | 0.06             |
| 132072  | 1720 | 100RB Rear     | /          | 22.37                 | 22.5                     | 1.12                    | <b>1.15</b>             | 0.621                    | <b>0.64</b>              | -0.05            |
| 132322  | 1745 | 50RB-Low Front | /          | 22.39                 | 22.5                     | 0.525                   | <b>0.54</b>             | 0.297                    | <b>0.30</b>              | -0.12            |
| 132572  | 1770 | 50RB-Low Rear  | /          | 22.36                 | 22.5                     | 0.623                   | <b>0.64</b>             | 0.354                    | <b>0.37</b>              | -0.11            |
| 132322  | 1745 | 50RB-Low Rear  | /          | 22.39                 | 22.5                     | 0.871                   | <b>0.89</b>             | 0.483                    | <b>0.50</b>              | 0.06             |
| 132072  | 1720 | 50RB-Low Rear  | /          | 22.35                 | 22.5                     | 1.13                    | <b>1.17</b>             | 0.628                    | <b>0.65</b>              | 0.12             |
| 132022  | 1715 | UL CA-66B Rear | /          | 22.25                 | 22.5                     | 1.07                    | <b>1.13</b>             | 0.603                    | <b>0.64</b>              | -0.09            |
| 132072  | 1720 | UL CA-66C Rear | /          | 22.18                 | 22.5                     | 1.02                    | <b>1.10</b>             | 0.584                    | <b>0.63</b>              | 0.09             |

Note1: The distance between the EUT and the phantom bottom is 15mm

Note2: The LTE mode is QPSK\_20MHz.



**Table 14.1-31: SAR Values (LTE Band66 – Hotspot)**

| Frequency |      | Ambient Temperature: 22.9 °C |            |                        |                          | Liquid Temperature: 22.5 °C |                         |                          |                           |                  |
|-----------|------|------------------------------|------------|------------------------|--------------------------|-----------------------------|-------------------------|--------------------------|---------------------------|------------------|
| Ch.       | MHz  | Mode                         | Figure No. | Conduct ed Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg)     | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g ) (W/kg) | Power Drift (dB) |
| 132322    | 1745 | 1RB-Mid Front                | /          | 17.79                  | 18.5                     | 0.363                       | <b>0.43</b>             | 0.189                    | <b>0.22</b>               | -0.15            |
| 132322    | 1745 | 1RB-Mid Rear                 | /          | 17.79                  | 18.5                     | 0.587                       | <b>0.69</b>             | 0.295                    | <b>0.35</b>               | -0.01            |
| 132322    | 1745 | 1RB-Mid Left                 | /          | 17.79                  | 18.5                     | <0.01                       | <0.01                   | <0.01                    | <0.01                     | /                |
| 132322    | 1745 | 1RB-Mid Right                | /          | 17.79                  | 18.5                     | 0.065                       | <b>0.08</b>             | 0.038                    | <b>0.04</b>               | -0.02            |
| 132572    | 1770 | 1RB-Mid Bottom               | /          | 17.69                  | 18.5                     | 0.769                       | <b>0.93</b>             | 0.389                    | <b>0.47</b>               | 0.15             |
| 132322    | 1745 | 1RB-Mid Bottom               | /          | 17.79                  | 18.5                     | 0.951                       | <b>1.12</b>             | 0.481                    | <b>0.57</b>               | -0.08            |
| 132072    | 1720 | 1RB-Mid Bottom               | Fig.31     | 17.78                  | 18.5                     | 1.01                        | <b>1.19</b>             | 0.515                    | <b>0.61</b>               | 0.12             |
| 132072    | 1720 | 100RB Bottom                 | /          | 17.65                  | 18.5                     | 0.963                       | <b>1.17</b>             | 0.489                    | <b>0.59</b>               | 0.03             |
| 132322    | 1745 | 50RB-Low Front               | /          | 17.72                  | 18.5                     | 0.356                       | <b>0.43</b>             | 0.184                    | <b>0.22</b>               | -0.05            |
| 132322    | 1745 | 50RB-Low Rear                | /          | 17.72                  | 18.5                     | 0.557                       | <b>0.67</b>             | 0.279                    | <b>0.33</b>               | -0.04            |
| 132322    | 1745 | 50RB-Low Left                | /          | 17.72                  | 18.5                     | <0.01                       | <0.01                   | <0.01                    | <0.01                     | /                |
| 132322    | 1745 | 50RB-Low Right               | /          | 17.72                  | 18.5                     | 0.066                       | <b>0.08</b>             | 0.038                    | <b>0.05</b>               | 0.1              |
| 132572    | 1770 | 50RB-Mid Bottom              | /          | 17.75                  | 18.5                     | 0.758                       | <b>0.90</b>             | 0.384                    | <b>0.46</b>               | -0.06            |
| 132322    | 1745 | 50RB-Low Bottom              | /          | 17.78                  | 18.5                     | 0.941                       | <b>1.11</b>             | 0.471                    | <b>0.56</b>               | -0.09            |
| 132072    | 1720 | 50RB-Mid Bottom              | /          | 17.74                  | 18.5                     | 0.969                       | <b>1.15</b>             | 0.495                    | <b>0.59</b>               | 0.07             |
| 132022    | 1715 | UL CA-66B Bottom             | /          | 17.76                  | 18.5                     | 0.857                       | <b>1.02</b>             | 0.462                    | <b>0.55</b>               | 0.06             |
| 132072    | 1720 | UL CA-66C Bottom             | /          | 17.68                  | 18.5                     | 0.902                       | <b>1.09</b>             | 0.488                    | <b>0.59</b>               | -0.13            |

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK\_20MHz.

**Table 14.1-32: SAR Values (LTE Band71 - Head)**

| Frequency |     | Ambient Temperature: 22.9 °C |       |               |            | Liquid Temperature: 22.5 °C |                          |                         |                         |                            |                            |                  |
|-----------|-----|------------------------------|-------|---------------|------------|-----------------------------|--------------------------|-------------------------|-------------------------|----------------------------|----------------------------|------------------|
| Ch.       | MHz | Mode                         | Side  | Test Position | Figure No. | Conduct ed Power (dBm)      | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measure d SAR(10g ) (W/kg) | Reporte d SAR(10g ) (W/kg) | Power Drift (dB) |
| 133322    | 683 | 1RB-Low                      | Left  | Cheek         | Fig.32     | 23.93                       | 25                       | 0.243                   | <b>0.31</b>             | 0.197                      | <b>0.25</b>                | -0.09            |
| 133322    | 683 | 1RB-Low                      | Left  | Tilt          | /          | 23.93                       | 25                       | 0.172                   | <b>0.22</b>             | 0.144                      | <b>0.18</b>                | 0.03             |
| 133322    | 683 | 1RB-Low                      | Right | Cheek         | /          | 23.93                       | 25                       | 0.089                   | <b>0.11</b>             | 0.073                      | <b>0.09</b>                | -0.13            |
| 133322    | 683 | 1RB-Low                      | Right | Tilt          | /          | 23.93                       | 25                       | 0.136                   | <b>0.17</b>             | 0.113                      | <b>0.14</b>                | 0.09             |
| 133322    | 683 | 50RB-Low                     | Left  | Cheek         | /          | 22.92                       | 24                       | 0.2                     | <b>0.26</b>             | 0.162                      | <b>0.21</b>                | 0.04             |
| 133322    | 683 | 50RB-Low                     | Left  | Tilt          | /          | 22.92                       | 24                       | 0.153                   | <b>0.20</b>             | 0.128                      | <b>0.16</b>                | -0.15            |
| 133322    | 683 | 50RB-Low                     | Right | Cheek         | /          | 22.92                       | 24                       | 0.075                   | <b>0.10</b>             | 0.062                      | <b>0.08</b>                | -0.17            |
| 133322    | 683 | 50RB-Low                     | Right | Tilt          | /          | 22.92                       | 24                       | 0.087                   | <b>0.11</b>             | 0.071                      | <b>0.09</b>                | -0.04            |

Note1: The LTE mode is QPSK\_20MHz.

**Table 14.1-33: SAR Values (LTE Band71 – Body)**

Ambient Temperature: 22.9 °C

Liquid Temperature: 22.5 °C

| Frequency |     | Mode            | Figure No. | Conduct ed Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)( W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g ) (W/kg) | Power Drift (dB) |
|-----------|-----|-----------------|------------|------------------------|--------------------------|-------------------------|-------------------------|--------------------------|---------------------------|------------------|
| Ch.       | MHz |                 |            |                        |                          |                         |                         |                          |                           |                  |
| 133322    | 683 | 1RB-Low Front   | /          | 23.93                  | 25                       | 0.338                   | <b>0.43</b>             | 0.266                    | <b>0.34</b>               | 0.17             |
| 133322    | 683 | 1RB-Low Rear    | Fig.33     | 23.93                  | 25                       | 0.446                   | <b>0.57</b>             | 0.35                     | <b>0.45</b>               | 0.01             |
| 133322    | 683 | 1RB-Low Left    | /          | 23.93                  | 25                       | 0.364                   | <b>0.47</b>             | 0.266                    | <b>0.34</b>               | 0.03             |
| 133322    | 683 | 1RB-Low Right   | /          | 23.93                  | 25                       | 0.443                   | <b>0.57</b>             | 0.325                    | <b>0.42</b>               | 0.05             |
| 133322    | 683 | 1RB-Low Bottom  | /          | 23.93                  | 25                       | 0.064                   | <b>0.08</b>             | 0.035                    | <b>0.04</b>               | 0.06             |
| 133322    | 683 | 50RB-Low Front  | /          | 22.92                  | 24                       | 0.29                    | <b>0.37</b>             | 0.228                    | <b>0.29</b>               | 0.16             |
| 133322    | 683 | 50RB-Low Rear   | /          | 22.92                  | 24                       | 0.383                   | <b>0.49</b>             | 0.301                    | <b>0.39</b>               | 0.03             |
| 133322    | 683 | 50RB-Low Left   | /          | 22.92                  | 24                       | 0.307                   | <b>0.39</b>             | 0.224                    | <b>0.29</b>               | 0.18             |
| 133322    | 683 | 50RB-Low Right  | /          | 22.92                  | 24                       | 0.381                   | <b>0.49</b>             | 0.279                    | <b>0.36</b>               | -0.15            |
| 133322    | 683 | 50RB-Low Bottom | /          | 22.92                  | 24                       | 0.055                   | <b>0.07</b>             | 0.03                     | <b>0.04</b>               | -0.02            |

Note1: The distance between the EUT and the phantom bottom is 10mm

Note2: The LTE mode is QPSK\_20MHz.

## 14.2 WLAN Evaluation for 2.4G

The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.

When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.

SAR Test reduction was applied from KDB 248227 guidance, when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

### Head Evaluation

**Table 14.2-1: SAR Values (WLAN2.4G - Head)**

| Frequency |      | Side  | Test Position | Note   | Ambient Temperature: 22.9°C |                          | Liquid Temperature: 22.5°C |                        |                          |                         | Power Drift (dB) |
|-----------|------|-------|---------------|--------|-----------------------------|--------------------------|----------------------------|------------------------|--------------------------|-------------------------|------------------|
| Ch.       | MHz  |       |               |        | Conducted Power (dBm)       | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg)    | Reported SAR(1g)(W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g)(W/kg) |                  |
| 11        | 2462 | Left  | Cheek         | /      | 20.45                       | 20.5                     | 0.973                      | <b>0.98</b>            | 0.484                    | <b>0.49</b>             | 0.07             |
| 6         | 2437 | Left  | Cheek         | Fig.34 | 20.66                       | 20.7                     | 1.05                       | <b>1.06</b>            | 0.525                    | <b>0.53</b>             | 0.02             |
| 1         | 2412 | Left  | Cheek         | /      | 20.79                       | 20.8                     | 0.969                      | <b>0.97</b>            | 0.499                    | <b>0.50</b>             | 0.07             |
| 6         | 2437 | Left  | Tilt          | /      | 20.66                       | 20.8                     | 0.927                      | <b>0.96</b>            | 0.425                    | <b>0.44</b>             | 0.04             |
| 6         | 2437 | Right | Cheek         | /      | 20.66                       | 20.8                     | 0.464                      | <b>0.48</b>            | 0.254                    | <b>0.26</b>             | -0.01            |
| 6         | 2437 | Right | Tilt          | /      | 20.66                       | 20.8                     | 0.502                      | <b>0.52</b>            | 0.254                    | <b>0.26</b>             | 0.17             |
| 6         | 2437 | Left  | Cheek         | B2     | 20.66                       | 20.7                     | 1.01                       | <b>1.02</b>            | 0.507                    | <b>0.51</b>             | -0.06            |

**Table 14.2-2: SAR Values (WLAN2.4G - Head) – (Scaled Reported SAR)**

| Frequency |     | Side | Test Position | Ambient Temperature: 22.9°C |                     | Liquid Temperature: 22.5°C |                                |
|-----------|-----|------|---------------|-----------------------------|---------------------|----------------------------|--------------------------------|
| MHz       | Ch. |      |               | Actual duty factor          | maximum duty factor | Reported SAR (1g)(W/kg)    | Scaled reported SAR (1g)(W/kg) |
| 2437      | 6   | Left | Cheek         | 100%                        | 100%                | <b>1.06</b>                | <b>1.06</b>                    |

SAR is not required for OFDM because the 802.11g adjusted SAR  $\leq$  1.2 W/kg.

**Body Evaluation**
**Table 14.2-3: SAR Values (WLAN2.4G - Body)**

| Frequency                    |      | Test Position               | Note/<br>Fig.No | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg) | Reported SAR(1g)(W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g)(W/kg) | Power Drift (dB) |
|------------------------------|------|-----------------------------|-----------------|-----------------------|--------------------------|-------------------------|------------------------|--------------------------|-------------------------|------------------|
| Ch.                          | MHz  |                             |                 |                       |                          |                         |                        |                          |                         |                  |
| Ambient Temperature: 22.9 °C |      | Liquid Temperature: 22.5 °C |                 |                       |                          |                         |                        |                          |                         |                  |
| 1                            | 2412 | Front                       | Note1           | 20.66                 | 20.8                     | 0.134                   | <b>0.14</b>            | 0.072                    | <b>0.07</b>             | -0.11            |
| 1                            | 2412 | Rear                        | Note1/<br>Fig35 | 20.66                 | 20.8                     | 0.177                   | <b>0.18</b>            | 0.0928                   | <b>0.10</b>             | -0.09            |
| 1                            | 2412 | Front                       | Note2           | 20.66                 | 20.8                     | 0.212                   | <b>0.22</b>            | 0.119                    | <b>0.12</b>             | -0.14            |
| 1                            | 2412 | Rear                        | Note2/<br>Fig36 | 20.66                 | 20.8                     | 0.328                   | <b>0.34</b>            | 0.164                    | <b>0.17</b>             | 0.03             |
| 1                            | 2412 | Right                       | Note2           | 20.66                 | 20.8                     | 0.18                    | <b>0.19</b>            | 0.099                    | <b>0.10</b>             | 0.17             |
| 1                            | 2412 | Top                         | Note2           | 20.66                 | 20.8                     | 0.177                   | <b>0.18</b>            | 0.098                    | <b>0.10</b>             | 0.13             |

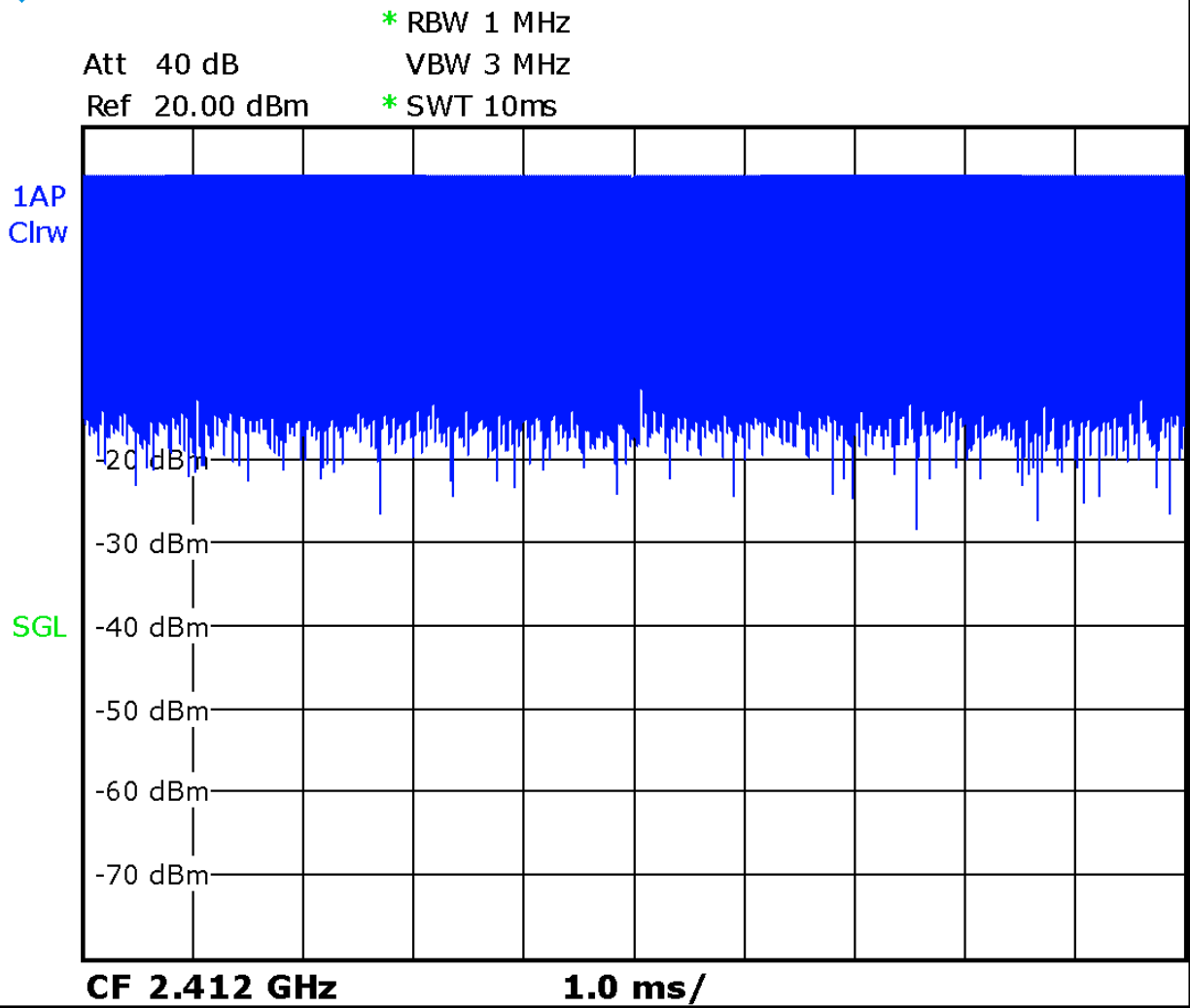
Note1: The distance between the EUT and the phantom bottom is 15mm.

Note2: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.2-4: SAR Values (WLAN2.4G - Body) (Scaled Reported SAR)**

| Frequency                    |      | Test Position               | Actual duty factor | maximum duty factor | Reported SAR (1g)(W/kg) | Scaled reported SAR (1g)(W/kg) |
|------------------------------|------|-----------------------------|--------------------|---------------------|-------------------------|--------------------------------|
| Ch.                          | MHz  |                             |                    |                     |                         |                                |
| Ambient Temperature: 22.9 °C |      | Liquid Temperature: 22.5 °C |                    |                     |                         |                                |
| 1                            | 2412 | Rear 15mm                   | 100%               | 100%                | <b>0.18</b>             | <b>0.18</b>                    |
| 1                            | 2412 | Rear 10mm                   | 100%               | 100%                | <b>0.34</b>             | <b>0.34</b>                    |

SAR is not required for OFDM because the 802.11g adjusted SAR  $\leq$  1.2 W/kg.



Picture 14.2-1 Duty factor plot

### 14.3 WLAN Evaluation for 5G

The maximum output power specified for production units are determined for all applicable 802.11 transmission modes in each standalone and aggregated frequency band. Maximum output power is measured for the highest maximum output power configuration(s) in each frequency band according to the default power measurement procedures.

When the same transmission mode configurations have the same maximum output power on the same channel for the 802.11 a/g/n/ac/ax modes, the channel in the lower order/sequence 802.11 mode (i.e. a, g, n ac then ax) is selected.

SAR Test reduction was applied from KDB 248227 guidance, when the same maximum power is specified for multiple transmission modes in a frequency band, the largest channel bandwidth, lowest order modulation, lowest data rate and lowest order 802.11a/g/n/ac mode is used for SAR measurement, on the highest measured output power channel in the initial test configuration, for each frequency band. Additional output power measurements were not deemed necessary.

#### Head Evaluation

**Table 14.3-1: SAR Values (WLAN5G - Head)**

| Frequency |      | Side  | Test Position | Note  | Ambient Temperature: 22.9 °C |                          | Liquid Temperature: 22.5 °C |                        |                          |                         | Power Drift (dB) |
|-----------|------|-------|---------------|-------|------------------------------|--------------------------|-----------------------------|------------------------|--------------------------|-------------------------|------------------|
| Ch.       | MHz  |       |               |       | Conducted Power (dBm)        | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg)     | Reported SAR(1g)(W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g)(W/kg) |                  |
| 52        | 5260 | Left  | Cheek         | /     | 18.97                        | 19                       | 0.239                       | <b>0.24</b>            | 0.077                    | <b>0.08</b>             | 0.08             |
| 52        | 5260 | Left  | Tilt          | /     | 18.97                        | 19                       | 0.124                       | <b>0.12</b>            | 0.049                    | <b>0.05</b>             | -0.08            |
| 52        | 5260 | Right | Cheek         | /     | 18.97                        | 19                       | 0.053                       | <b>0.05</b>            | 0.021                    | <b>0.02</b>             | -0.11            |
| 52        | 5260 | Right | Tilt          | /     | 18.97                        | 19                       | 0.052                       | <b>0.05</b>            | 0.019                    | <b>0.02</b>             | 0.08             |
| 142       | 5710 | Left  | Cheek         | Fig37 | 18.52                        | 18.9                     | 0.48                        | <b>0.52</b>            | 0.127                    | <b>0.14</b>             | -0.07            |
| 142       | 5710 | Left  | Tilt          | /     | 18.52                        | 18.9                     | 0.235                       | <b>0.26</b>            | 0.068                    | <b>0.07</b>             | 0.06             |
| 142       | 5710 | Right | Cheek         | /     | 18.52                        | 18.9                     | 0.105                       | <b>0.11</b>            | 0.03                     | <b>0.03</b>             | -0.11            |
| 142       | 5710 | Right | Tilt          | /     | 18.52                        | 18.9                     | 0.114                       | <b>0.12</b>            | 0.031                    | <b>0.03</b>             | 0.07             |
| 159       | 5795 | Left  | Cheek         | /     | 18.82                        | 18.9                     | 0.492                       | <b>0.50</b>            | 0.134                    | <b>0.14</b>             | 0.16             |
| 159       | 5795 | Left  | Tilt          | /     | 18.82                        | 18.9                     | 0.276                       | <b>0.28</b>            | 0.085                    | <b>0.09</b>             | -0.05            |
| 159       | 5795 | Right | Cheek         | /     | 18.82                        | 18.9                     | 0.143                       | <b>0.15</b>            | 0.051                    | <b>0.05</b>             | 0.06             |
| 159       | 5795 | Right | Tilt          | /     | 18.82                        | 18.9                     | 0.097                       | <b>0.10</b>            | 0.032                    | <b>0.03</b>             | -0.01            |

**Table 14.3-2: SAR Values (WLAN5G - Head) (Scaled Reported SAR)**

| Frequency |      | Side | Test Position | Ambient Temperature: 22.9 °C |                     | Liquid Temperature: 22.5 °C |                                |
|-----------|------|------|---------------|------------------------------|---------------------|-----------------------------|--------------------------------|
| Ch.       | MHz  |      |               | Actual duty factor           | maximum duty factor | Reported SAR (1g)(W/kg)     | Scaled reported SAR (1g)(W/kg) |
| 142       | 5710 | Left | Cheek         | 100%                         | 100%                | <b>0.52</b>                 | <b>0.52</b>                    |

SAR is not required for OFDM because the 802.11g adjusted SAR  $\leq$  1.2 W/kg.

**Body Evaluation**
**Table 14.3-3: SAR Values (WLAN5G - Body)**

| Frequency |      | Test Position | Note/<br>Fig.No | Ambient Temperature: 22.9 °C |                          | Liquid Temperature: 22.5 °C |                        |                          |                         | Power Drift (dB) |
|-----------|------|---------------|-----------------|------------------------------|--------------------------|-----------------------------|------------------------|--------------------------|-------------------------|------------------|
| Ch.       | MHz  |               |                 | Conducted Power (dBm)        | Max. tune-up Power (dBm) | Measured SAR(1g) (W/kg)     | Reported SAR(1g)(W/kg) | Measured SAR(10g) (W/kg) | Reported SAR(10g)(W/kg) |                  |
| 52        | 5260 | Front         | Note1           | 18.97                        | 19                       | 0.058                       | <b>0.06</b>            | 0.015                    | <b>0.02</b>             | -0.12            |
| 52        | 5260 | Rear          | Note1           | 18.97                        | 19                       | 0.412                       | <b>0.41</b>            | 0.159                    | <b>0.16</b>             | -0.06            |
| 142       | 5710 | Front         | Note1           | 18.52                        | 18.9                     | 0.061                       | <b>0.07</b>            | 0.024                    | <b>0.03</b>             | 0.07             |
| 142       | 5710 | Rear          | Note1           | 18.52                        | 18.9                     | 0.575                       | <b>0.63</b>            | 0.225                    | <b>0.25</b>             | -0.05            |
| 159       | 5795 | Front         | Note1           | 18.82                        | 18.9                     | 0.056                       | <b>0.06</b>            | 0.022                    | <b>0.02</b>             | -0.05            |
| 159       | 5795 | Rear          | Note1/<br>Fig38 | 18.82                        | 18.9                     | 0.705                       | <b>0.72</b>            | 0.27                     | <b>0.28</b>             | -0.06            |
| 52        | 5260 | Front         | Note2           | 18.97                        | 19                       | 0.1                         | <b>0.10</b>            | 0.037                    | <b>0.04</b>             | -0.12            |
| 52        | 5260 | Rear          | Note2           | 18.97                        | 19                       | 0.583                       | <b>0.59</b>            | 0.196                    | <b>0.20</b>             | -0.08            |
| 52        | 5260 | Right         | Note2           | 18.97                        | 19                       | 0.504                       | <b>0.51</b>            | 0.161                    | <b>0.16</b>             | 0.06             |
| 52        | 5260 | Top           | Note2           | 18.97                        | 19                       | 0.068                       | <b>0.07</b>            | 0.03                     | <b>0.03</b>             | -0.17            |
| 142       | 5710 | Front         | Note2           | 18.52                        | 18.9                     | 0.095                       | <b>0.10</b>            | 0.036                    | <b>0.04</b>             | 0.15             |
| 142       | 5710 | Rear          | Note2           | 18.52                        | 18.9                     | 0.828                       | <b>0.90</b>            | 0.287                    | <b>0.31</b>             | -0.05            |
| 110       | 5550 | Rear          | Note2           | 18.47                        | 18.9                     | 0.76                        | <b>0.84</b>            | 0.273                    | <b>0.30</b>             | -0.07            |
| 142       | 5710 | Right         | Note2           | 18.52                        | 18.9                     | 0.638                       | <b>0.70</b>            | 0.239                    | <b>0.26</b>             | 0.11             |
| 142       | 5710 | Top           | Note2           | 18.52                        | 18.9                     | 0.125                       | <b>0.14</b>            | 0.051                    | <b>0.06</b>             | 0.06             |
| 159       | 5795 | Front         | Note2           | 18.82                        | 18.9                     | 0.084                       | <b>0.09</b>            | 0.03                     | <b>0.03</b>             | -0.07            |
| 159       | 5795 | Rear          | Note2/<br>Fig39 | 18.82                        | 18.9                     | 0.887                       | <b>0.90</b>            | 0.313                    | <b>0.32</b>             | -0.04            |
| 151       | 5755 | Rear          | Note2           | 18.79                        | 18.9                     | 0.802                       | <b>0.82</b>            | 0.262                    | <b>0.27</b>             | 0.05             |
| 159       | 5795 | Right         | Note2           | 18.82                        | 18.9                     | 0.664                       | <b>0.68</b>            | 0.239                    | <b>0.24</b>             | -0.12            |
| 159       | 5795 | Top           | Note2           | 18.82                        | 18.9                     | 0.131                       | <b>0.13</b>            | 0.055                    | <b>0.06</b>             | -0.07            |

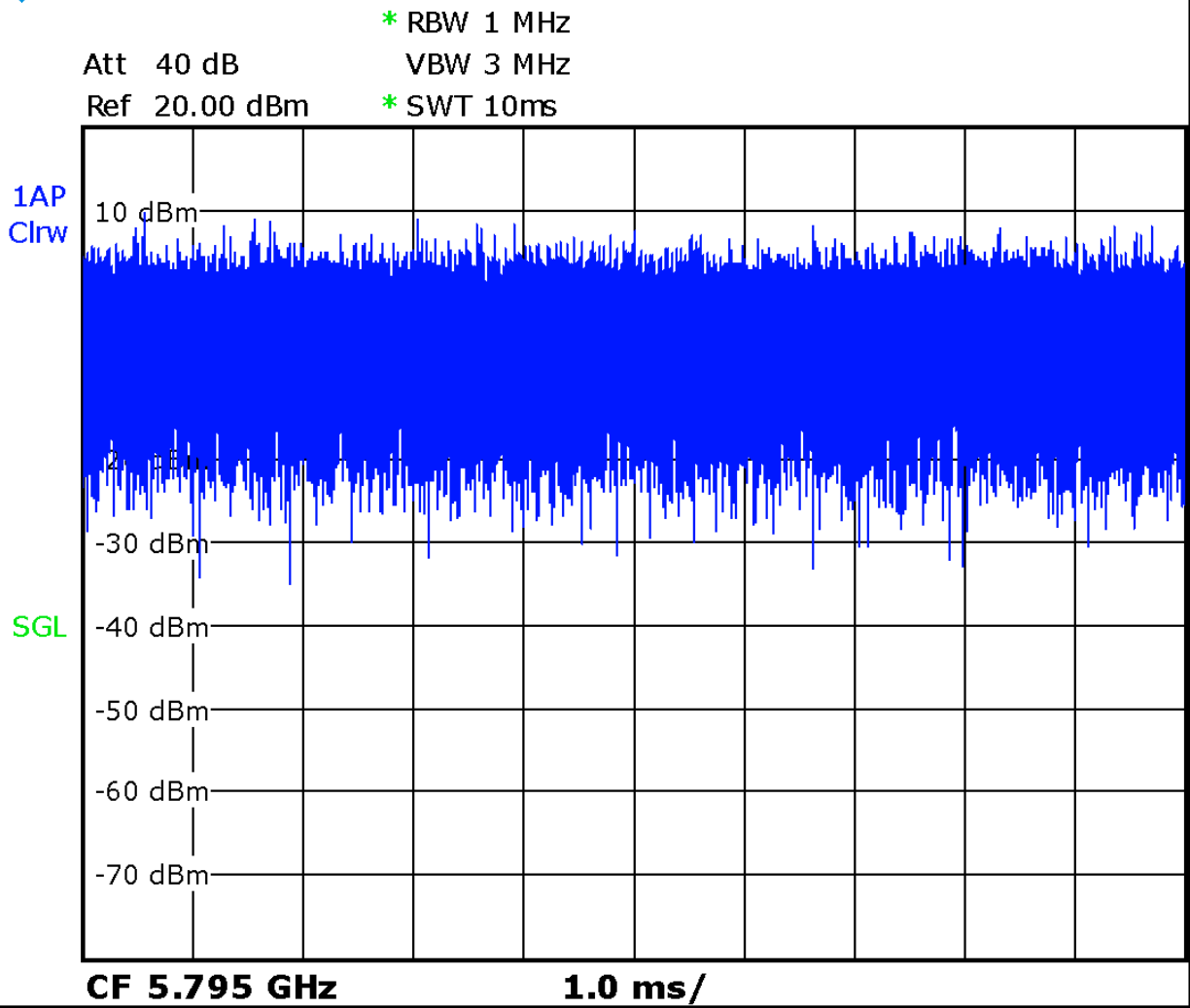
Note1: The distance between the EUT and the phantom bottom is 15mm.

Note2: The distance between the EUT and the phantom bottom is 10mm.

**Table 14.3-4: SAR Values (WLAN - Body) – 802.11b (Scaled Reported SAR)**

| Frequency |      | Test Position | Ambient Temperature: 22.9 °C |                     | Liquid Temperature: 22.5 °C |                                |
|-----------|------|---------------|------------------------------|---------------------|-----------------------------|--------------------------------|
| Ch.       | MHz  |               | Actual duty factor           | maximum duty factor | Reported SAR (1g)(W/kg)     | Scaled reported SAR (1g)(W/kg) |
| 159       | 5795 | Rear 15mm     | 100%                         | 100%                | <b>0.72</b>                 | <b>0.72</b>                    |
| 159       | 5795 | Rear 10mm     | 100%                         | 100%                | <b>0.90</b>                 | <b>0.90</b>                    |

SAR is not required for OFDM because the 802.11g adjusted SAR  $\leq$  1.2 W/kg.



Picture 14.3-1 Duty factor plot



### 14.4 WLAN Evaluation For BT

**Table 14.4-1: SAR Values (BT - Head)**

| Frequency   |      | Side  | Test Position | Fig.No | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Measured SAR(1g) (W/kg) | Reported SAR(1g) (W/kg) | Power Drift (dB) |
|---|------|-------|---------------|--------|-----------------------|--------------------------|--------------------------|--------------------------|-------------------------|-------------------------|------------------|
| Ch.   | MHz  |       |               |        |                       |                          |                          |                          |                         |                         |                  |
| Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C |      |       |               |        |                       |                          |                          |                          |                         |                         |                  |
| 39  | 2441 | Left  | Cheek         | /      | 5.16                  | 5.5                      | 0.018                    | <b>0.02</b>              | 0.0123                  | <b>0.01</b>             | 0.13             |
| 39  | 2441 | Left  | Tilt          | /      | 5.16                  | 5.5                      | <0.01                    | <0.01                    | <0.01                   | <0.01                   | /                |
| 39  | 2441 | Right | Cheek         | Fig.40 | 5.16                  | 5.5                      | 0.0269                   | <b>0.03</b>              | 0.0152                  | <b>0.02</b>             | -0.05            |
| 39  | 2441 | Right | Tilt          | /      | 5.16                  | 5.5                      | <0.01                    | <0.01                    | <0.01                   | <0.01                   | /                |

**Table 14.4-2: SAR Values (BT - Body)**

| Frequency   |      | Test Position | Fig.No | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(10g) (W/kg) | Reported SAR(10g) (W/kg) | Measured SAR(1g) (W/kg) | Reported SAR(1g) (W/kg) | Power Drift (dB) |
|---|------|---------------|--------|-----------------------|--------------------------|--------------------------|--------------------------|-------------------------|-------------------------|------------------|
| Ch.   | MHz  |               |        |                       |                          |                          |                          |                         |                         |                  |
| Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C |      |               |        |                       |                          |                          |                          |                         |                         |                  |
| 39  | 2441 | Front         | /      | 5.16                  | 5.5                      | <0.01                    | <0.01                    | <0.01                   | <0.01                   | /                |
| 39  | 2441 | Rear          | Fig.41 | 5.16                  | 5.5                      | 0.0212                   | <b>0.02</b>              | 0.0106                  | <b>0.01</b>             | 0.07             |
| 39  | 2441 | Right         | /      | 5.16                  | 5.5                      | <0.01                    | <0.01                    | <0.01                   | <0.01                   | /                |
| 39  | 2441 | Top           | /      | 5.16                  | 5.5                      | <0.01                    | <0.01                    | <0.01                   | <0.01                   | /                |

Note1: The distance between the EUT and the phantom bottom is 10mm

### 14.5 SAR results for 10-g extremity SAR

According to the KDB648474 D04, the UMPC mini-tablet procedures must also be applied to test the SAR of all surfaces and edges with an antenna located at  $\leq 25$  mm from that surface or edge, in direct contact with a flat phantom, for 10-g extremity SAR according to the body-equivalent tissue dielectric parameters in KDB Publication 865664 D01 to address interactive hand use exposure conditions. When hotspot mode applies, 10-g extremity SAR is required only for the surfaces and edges with hotspot mode 1-g reported SAR  $> 1.2$  W/kg. If power reduction applied for hotspot mode, the SAR values should be scaled to normal power, and then compare it with 1.2W/kg.

**Table 14.5-1: SAR Values for phablet**

| Band        | Frequency |        | Test Mode      | Conducted Power (dBm) | Max. tune-up Power (dBm) | Measured SAR(10g) (W/kg) | Reported SAR(10g)(W/kg) | Measured SAR(1g) (W/kg) | Reported SAR(1g)(W/kg) | Power Drift (dB) |
|-------------|-----------|--------|----------------|-----------------------|--------------------------|--------------------------|-------------------------|-------------------------|------------------------|------------------|
|             | Ch.       | MHz    |                |                       |                          |                          |                         |                         |                        |                  |
| GSM1900     | 810       | 1909.8 | Bottom GPRS(2) | 27.86                 | 28.5                     | 3.46                     | <b>4.01</b>             | 1.52                    | <b>1.76</b>            | 0.11             |
| GSM1900     | 661       | 1880   | Bottom GPRS(2) | 27.8                  | 28.5                     | 3.96                     | <b>4.65</b>             | 1.7                     | <b>2.00</b>            | -0.06            |
| GSM1900     | 512       | 1850.2 | Bottom GPRS(2) | 27.8                  | 28.5                     | 4.79                     | <b>5.63</b>             | 2.11                    | <b>2.48</b>            | 0.09             |
| WCDMA1900   | 9538      | 1907.6 | RMC Bottom     | 23.59                 | 24                       | 6.58                     | <b>7.23</b>             | 2.69                    | <b>2.96</b>            | -0.05            |
| WCDMA1900   | 9400      | 1880   | RMC Bottom     | 23.63                 | 24                       | 7.03                     | <b>7.66</b>             | 2.88                    | <b>3.14</b>            | 0.11             |
| WCDMA1900   | 9262      | 1852.4 | RMC Bottom     | 23.74                 | 24                       | 7.64                     | <b>8.11</b>             | 3.16                    | <b>3.35</b>            | 0.08             |
| WCDMA1700   | 1513      | 1752.6 | RMC Rear       | 22.68                 | 23                       | 3.75                     | <b>4.04</b>             | 1.61                    | <b>1.73</b>            | 0.09             |
| WCDMA1700   | 1412      | 1732.5 | RMC Rear       | 22.62                 | 23                       | 3.91                     | <b>4.27</b>             | 1.8                     | <b>1.96</b>            | -0.05            |
| WCDMA1700   | 1312      | 1712.4 | RMC Rear       | 22.78                 | 23                       | 4.69                     | <b>4.93</b>             | 2.02                    | <b>2.12</b>            | 0.11             |
| WCDMA1700   | 1513      | 1752.6 | RMC Bottom     | 22.68                 | 23                       | 5.73                     | <b>6.17</b>             | 2.63                    | <b>2.83</b>            | -0.03            |
| WCDMA1700   | 1412      | 1732.5 | RMC Bottom     | 22.62                 | 23                       | 6                        | <b>6.55</b>             | 2.69                    | <b>2.94</b>            | -0.12            |
| WCDMA1700   | 1312      | 1712.4 | RMC Bottom     | 22.78                 | 23                       | 6.98                     | <b>7.34</b>             | 3.03                    | <b>3.19</b>            | -0.09            |
| LTE B2      | 19100     | 1900   | 1RB-Mid Bottom | 22.7                  | 23.5                     | 5.45                     | <b>6.55</b>             | 2.37                    | <b>2.85</b>            | -0.11            |
| LTE B2      | 18900     | 1880   | 1RB-Mid Bottom | 22.65                 | 23.5                     | 5.71                     | <b>6.94</b>             | 2.47                    | <b>3.00</b>            | 0.09             |
| LTE B2      | 18700     | 1860   | 1RB-Mid Bottom | 22.68                 | 23.5                     | 6.04                     | <b>7.30</b>             | 2.62                    | <b>3.16</b>            | 0.04             |
| LTE B41-PC3 | 41490     | 2680   | 1RB-Mid Rear   | 23.44                 | 24                       | 6.63                     | <b>7.54</b>             | 2.11                    | <b>2.40</b>            | -0.09            |
| LTE B41-PC3 | 41055     | 2636.5 | 1RB-Mid Rear   | 23.24                 | 24                       | 7.22                     | <b>8.60</b>             | 2.28                    | <b>2.72</b>            | 0.12             |
| LTE B41-PC3 | 40620     | 2593   | 1RB-Mid Rear   | 23.36                 | 24                       | 7.82                     | <b>9.06</b>             | 2.45                    | <b>2.84</b>            | -0.12            |
| LTE B41-PC3 | 40185     | 2549.5 | 1RB-Mid Rear   | 23.3                  | 24                       | 8.02                     | <b>9.42</b>             | 2.5                     | <b>2.94</b>            | 0.06             |
| LTE B41-PC3 | 39750     | 2506   | 1RB-Mid Rear   | 23.19                 | 24                       | 7.36                     | <b>8.87</b>             | 2.32                    | <b>2.80</b>            | 0.12             |
| LTE B41-PC3 | 41490     | 2680   | 1RB-Mid Bottom | 23.44                 | 24                       | 3.34                     | <b>3.80</b>             | 1.2                     | <b>1.37</b>            | 0.1              |
| LTE B41-PC3 | 41055     | 2636.5 | 1RB-Mid Bottom | 23.24                 | 24                       | 4.11                     | <b>4.90</b>             | 1.45                    | <b>1.73</b>            | -0.03            |
| LTE B41-PC3 | 40620     | 2593   | 1RB-Mid Bottom | 23.36                 | 24                       | 4.85                     | <b>5.62</b>             | 1.69                    | <b>1.96</b>            | 0.15             |
| LTE B41-PC3 | 40185     | 2549.5 | 1RB-Mid Bottom | 23.3                  | 24                       | 4.68                     | <b>5.50</b>             | 1.66                    | <b>1.95</b>            | 0.17             |
| LTE B41-PC3 | 39750     | 2506   | 1RB-Mid Bottom | 23.19                 | 24                       | 5.67                     | <b>6.83</b>             | 1.99                    | <b>2.40</b>            | 0.03             |
| LTE B41-PC2 | 41490     | 2680   | 1RB-Mid Rear   | 25.58                 | 26                       | 7.12                     | <b>7.84</b>             | 2.32                    | <b>2.56</b>            | 0.06             |
| LTE B41-PC2 | 41055     | 2636.5 | 1RB-Mid Rear   | 25.37                 | 26                       | 7.6                      | <b>8.79</b>             | 2.61                    | <b>3.02</b>            | -0.06            |
| LTE B41-PC2 | 40620     | 2593   | 1RB-Mid Rear   | 25.55                 | 26                       | 7.32                     | <b>8.12</b>             | 2.75                    | <b>3.05</b>            | 0.11             |



|             |        |        |                |       |      |       |             |        |             |       |
|-------------|--------|--------|----------------|-------|------|-------|-------------|--------|-------------|-------|
| LTE B41-PC2 | 40185  | 2549.5 | 1RB-Mid Rear   | 25.37 | 26   | 8.14  | <b>9.41</b> | 2.73   | <b>3.16</b> | -0.11 |
| LTE B41-PC2 | 39750  | 2506   | 1RB-Mid Rear   | 25.5  | 26   | 8.22  | <b>9.22</b> | 2.67   | <b>3.00</b> | 0.07  |
| LTE B41-PC2 | 41490  | 2680   | 1RB-Mid Bottom | 25.58 | 26   | 3.33  | <b>3.67</b> | 1.36   | <b>1.50</b> | 0.06  |
| LTE B41-PC2 | 41055  | 2636.5 | 1RB-Mid Bottom | 25.37 | 26   | 3.82  | <b>4.42</b> | 1.54   | <b>1.78</b> | -0.09 |
| LTE B41-PC2 | 40620  | 2593   | 1RB-Mid Bottom | 25.55 | 26   | 4.48  | <b>4.97</b> | 1.9    | <b>2.11</b> | 0.04  |
| LTE B41-PC2 | 40185  | 2549.5 | 1RB-Mid Bottom | 25.37 | 26   | 5.92  | <b>6.84</b> | 2.27   | <b>2.62</b> | 0.12  |
| LTE B41-PC2 | 39750  | 2506   | 1RB-Mid Bottom | 25.5  | 26   | 5.37  | <b>6.03</b> | 2.21   | <b>2.48</b> | -0.09 |
| LTE B66     | 132572 | 1770   | 1RB-Mid Rear   | 22.38 | 22.5 | 3.4   | <b>3.50</b> | 1.39   | <b>1.43</b> | 0.06  |
| LTE B66     | 132322 | 1745   | 1RB-Mid Rear   | 22.42 | 22.5 | 3.45  | <b>3.51</b> | 1.39   | <b>1.42</b> | -0.07 |
| LTE B66     | 132072 | 1720   | 1RB-Mid Rear   | 22.37 | 22.5 | 4.21  | <b>4.34</b> | 1.65   | <b>1.70</b> | -0.11 |
| LTE B66     | 132572 | 1770   | 1RB-Mid Bottom | 22.38 | 22.5 | 6.51  | <b>6.69</b> | 2.74   | <b>2.82</b> | 0.07  |
| LTE B66     | 132322 | 1745   | 1RB-Mid Bottom | 22.42 | 22.5 | 6.47  | <b>6.59</b> | 2.79   | <b>2.84</b> | -0.05 |
| LTE B66     | 132072 | 1720   | 1RB-Mid Bottom | 22.37 | 22.5 | 6.8   | <b>7.01</b> | 2.95   | <b>3.04</b> | -0.08 |
| WIFI2.4G    | 1      | 2412   | Rear           | 20.66 | 20.8 | 2.85  | <b>2.94</b> | 1.16   | <b>1.20</b> | -0.06 |
| WIFI5G      | 142    | 5710   | Rear           | 18.52 | 18.9 | 7.07  | <b>7.72</b> | 1.52   | <b>1.66</b> | 0.04  |
| WIFI5G      | 159    | 5795   | Rear           | 18.82 | 18.9 | 7.850 | <b>8.00</b> | 1.71   | <b>1.74</b> | 0.04  |
| BT          | 39     | 2441   | Rear           | 5.16  | 5.5  | 0.129 | <b>0.14</b> | 0.0525 | <b>0.06</b> | 0.05  |

Note: The distance between the EUT and the phantom bottom is 0mm.

## 15 SAR Measurement Variability

SAR measurement variability must be assessed for each frequency band, which is determined by the SAR probe calibration point and tissue-equivalent medium used for the device measurements. When both head and body tissue-equivalent media are required for SAR measurements in a frequency band, the variability measurement procedures should be applied to the tissue medium with the highest measured SAR, using the highest measured SAR configuration for that tissue-equivalent medium.

The following procedures are applied to determine if repeated measurements are required.

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

**Table 15.1: SAR Measurement Variability for Head&Body**

| Band        | Frequency |        | Mode        | Test Position | Spacing (mm) | Original SAR (W/kg) | First Repeated SAR (W/kg) | The Ratio | Second Repeated SAR (W/kg) |
|-------------|-----------|--------|-------------|---------------|--------------|---------------------|---------------------------|-----------|----------------------------|
|             | Ch.       | MHz    |             |               |              |                     |                           |           |                            |
| WCDMA1900   | 9262      | 1852.4 | RMC         | Bottom        | 10           | 0.853               | 0.832                     | 1.03      | /                          |
| WCDMA1700   | 1312      | 1712.4 | RMC         | Bottom        | 10           | 0.919               | 0.903                     | 1.02      | /                          |
| WCDMA1700   | 1312      | 1712.4 | RMC         | Rear          | 15           | 1.26                | 1.22                      | 1.03      | /                          |
| LTE B41-PC3 | 40620     | 2593   | 1RB-Mid     | Bottom        | 10           | 1.06                | 1.04                      | 1.02      | /                          |
| LTE B41-PC2 | 40620     | 2593   | 1RB-Mid     | Rear          | 10           | 0.821               | 0.816                     | 1.01      | /                          |
| LTE B41-PC2 | 40620     | 2593   | 50RB-Low    | Bottom        | 10           | 1.17                | 1.15                      | 1.02      | /                          |
| LTE B66     | 132072    | 1720   | 1RB-Mid     | Bottom        | 10           | 1.01                | 0.997                     | 1.01      | /                          |
| LTE B66     | 132072    | 1720   | 1RB-Mid     | Rear          | 15           | 1.15                | 1.13                      | 1.02      | /                          |
| WIFI2.4G    | 6         | 2437   | 802.11b     | Left Cheek    | 0            | 1.05                | 1.04                      | 1.01      | /                          |
| WIF5G       | 159       | 5795   | 802.11n-40M | Rear          | 10           | 0.887               | 0.859                     | 1.03      | /                          |

## 16 Measurement Uncertainty

### 16.1 Measurement Uncertainty for Normal SAR Tests (300MHz~3GHz)

| No.                        | Error Description                               | Type | Uncertainty value | Probably Distribution | Div.       | (Ci) 1g | (Ci) 10g | Std. Unc. (1g) | Std. Unc. (10g) | Degree of freedom |
|----------------------------|---|------|-------------------|-----------------------|------------|---------|----------|----------------|-----------------|-------------------|
| <b>Measurement system</b>  |   |      |                   |                       |            |         |          |                |                 |                   |
| 1                          | Probe calibration                               | B    | 6.0               | N                     | 1          | 1       | 1        | 6.0            | 6.0             | $\infty$          |
| 2                          | Isotropy  | B    | 4.7               | R                     | $\sqrt{3}$ | 0.7     | 0.7      | 1.9            | 1.9             | $\infty$          |
| 3                          | Boundary effect                                 | B    | 1.0               | R                     | $\sqrt{3}$ | 1       | 1        | 0.6            | 0.6             | $\infty$          |
| 4                          | Linearity                                       | B    | 4.7               | R                     | $\sqrt{3}$ | 1       | 1        | 2.7            | 2.7             | $\infty$          |
| 5                          | Detection limit                                 | B    | 1.0               | N                     | 1          | 1       | 1        | 0.6            | 0.6             | $\infty$          |
| 6                          | Readout electronics                             | B    | 0.3               | R                     | $\sqrt{3}$ | 1       | 1        | 0.3            | 0.3             | $\infty$          |
| 7                          | Response time                                   | B    | 0.8               | R                     | $\sqrt{3}$ | 1       | 1        | 0.5            | 0.5             | $\infty$          |
| 8                          | Integration time                                | B    | 2.6               | R                     | $\sqrt{3}$ | 1       | 1        | 1.5            | 1.5             | $\infty$          |
| 9                          | RF ambient conditions-noise                     | B    | 0                 | R                     | $\sqrt{3}$ | 1       | 1        | 0              | 0               | $\infty$          |
| 10                         | RF ambient conditions-reflection                | B    | 0                 | R                     | $\sqrt{3}$ | 1       | 1        | 0              | 0               | $\infty$          |
| 11                         | Probe positioned mech. restrictions             | B    | 0.4               | R                     | $\sqrt{3}$ | 1       | 1        | 0.2            | 0.2             | $\infty$          |
| 12                         | Probe positioning with respect to phantom shell | B    | 2.9               | R                     | $\sqrt{3}$ | 1       | 1        | 1.7            | 1.7             | $\infty$          |
| 13                         | Post-processing                                 | B    | 1.0               | R                     | $\sqrt{3}$ | 1       | 1        | 0.6            | 0.6             | $\infty$          |
| <b>Test sample related</b> |   |      |                   |                       |            |         |          |                |                 |                   |
| 14                         | Test sample positioning                         | A    | 3.3               | N                     | 1          | 1       | 1        | 3.3            | 3.3             | 71                |
| 15                         | Device holder uncertainty                       | A    | 3.4               | N                     | 1          | 1       | 1        | 3.4            | 3.4             | 5                 |
| 16                         | Drift of output power                           | B    | 5.0               | R                     | $\sqrt{3}$ | 1       | 1        | 2.9            | 2.9             | $\infty$          |
| <b>Phantom and set-up</b>  |   |      |                   |                       |            |         |          |                |                 |                   |
| 17                         | Phantom uncertainty                             | B    | 4.0               | R                     | $\sqrt{3}$ | 1       | 1        | 2.3            | 2.3             | $\infty$          |
| 18                         | Liquid conductivity (target)                    | B    | 5.0               | R                     | $\sqrt{3}$ | 0.64    | 0.43     | 1.8            | 1.2             | $\infty$          |
| 19                         | Liquid conductivity (meas.)                     | A    | 2.06              | N                     | 1          | 0.64    | 0.43     | 1.32           | 0.89            | 43                |
| 20                         | Liquid permittivity (target)                    | B    | 5.0               | R                     | $\sqrt{3}$ | 0.6     | 0.49     | 1.7            | 1.4             | $\infty$          |
| 21                         | Liquid permittivity (meas.)                     | A    | 1.6               | N                     | 1          | 0.6     | 0.49     | 1.0            | 0.8             | 521               |

|  |  |  |  |  |  |  |  |      |      |     |
|--|--|--|--|--|--|--|--|------|------|-----|
| Combined standard uncertainty                      | $u_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$ |  |  |  |  |  |  | 9.55 | 9.43 | 257 |
| Expanded uncertainty (confidence interval of 95 %) | $u_e = 2u_c$                               |  |  |  |  |  |  | 19.1 | 18.9 |     |

**16.2 Measurement Uncertainty for Normal SAR Tests (3~6GHz)**

| No.                        | Error Description                               | Type | Uncertainty value | Probably Distribution | Div.       | (Ci) 1g | (Ci) 10g | Std. Unc. (1g) | Std. Unc. (10g) | Degree of freedom |
|----------------------------|---|------|-------------------|-----------------------|------------|---------|----------|----------------|-----------------|-------------------|
| <b>Measurement system</b>  |   |      |                   |                       |            |         |          |                |                 |                   |
| 1                          | Probe calibration                               | B    | 6.55              | N                     | 1          | 1       | 1        | 6.55           | 6.55            | $\infty$          |
| 2                          | Isotropy  | B    | 4.7               | R                     | $\sqrt{3}$ | 0.7     | 0.7      | 1.9            | 1.9             | $\infty$          |
| 3                          | Boundary effect                                 | B    | 2.0               | R                     | $\sqrt{3}$ | 1       | 1        | 1.2            | 1.2             | $\infty$          |
| 4                          | Linearity                                       | B    | 4.7               | R                     | $\sqrt{3}$ | 1       | 1        | 2.7            | 2.7             | $\infty$          |
| 5                          | Detection limit                                 | B    | 1.0               | R                     | $\sqrt{3}$ | 1       | 1        | 0.6            | 0.6             | $\infty$          |
| 6                          | Readout electronics                             | B    | 0.3               | R                     | $\sqrt{3}$ | 1       | 1        | 0.3            | 0.3             | $\infty$          |
| 7                          | Response time                                   | B    | 0.8               | R                     | $\sqrt{3}$ | 1       | 1        | 0.5            | 0.5             | $\infty$          |
| 8                          | Integration time                                | B    | 2.6               | R                     | $\sqrt{3}$ | 1       | 1        | 1.5            | 1.5             | $\infty$          |
| 9                          | RF ambient conditions-noise                     | B    | 0                 | R                     | $\sqrt{3}$ | 1       | 1        | 0              | 0               | $\infty$          |
| 10                         | RFambient conditions-reflection                 | B    | 0                 | R                     | $\sqrt{3}$ | 1       | 1        | 0              | 0               | $\infty$          |
| 11                         | Probe positioned mech. restrictions             | B    | 0.8               | R                     | $\sqrt{3}$ | 1       | 1        | 0.5            | 0.5             | $\infty$          |
| 12                         | Probe positioning with respect to phantom shell | B    | 6.7               | R                     | $\sqrt{3}$ | 1       | 1        | 3.9            | 3.9             | $\infty$          |
| 13                         | Post-processing                                 | B    | 4.0               | R                     | $\sqrt{3}$ | 1       | 1        | 2.3            | 2.3             | $\infty$          |
| <b>Test sample related</b> |   |      |                   |                       |            |         |          |                |                 |                   |
| 14                         | Test sample positioning                         | A    | 3.3               | N                     | 1          | 1       | 1        | 3.3            | 3.3             | 71                |
| 15                         | Device holder uncertainty                       | A    | 3.4               | N                     | 1          | 1       | 1        | 3.4            | 3.4             | 5                 |
| 16                         | Drift of output power                           | B    | 5.0               | R                     | $\sqrt{3}$ | 1       | 1        | 2.9            | 2.9             | $\infty$          |
| <b>Phantom and set-up</b>  |   |      |                   |                       |            |         |          |                |                 |                   |
| 17                         | Phantom uncertainty                             | B    | 4.0               | R                     | $\sqrt{3}$ | 1       | 1        | 2.3            | 2.3             | $\infty$          |
| 18                         | Liquid conductivity (target)                    | B    | 5.0               | R                     | $\sqrt{3}$ | 0.64    | 0.43     | 1.8            | 1.2             | $\infty$          |
| 19                         | Liquid conductivity (meas.)                     | A    | 2.06              | N                     | 1          | 0.64    | 0.43     | 1.32           | 0.89            | 43                |
| 20                         | Liquid permittivity (target)                    | B    | 5.0               | R                     | $\sqrt{3}$ | 0.6     | 0.49     | 1.7            | 1.4             | $\infty$          |

|  |                             |  |     |   |   |     |      |      |      |     |
|--|-----------------------------|--|-----|---|---|-----|------|------|------|-----|
| 21   | Liquid permittivity (meas.) | A  | 1.6 | N | 1 | 0.6 | 0.49 | 1.0  | 0.8  | 521 |
| Combined standard uncertainty                      |                             | $u_c = \sqrt{\sum_{i=1}^{21} c_i^2 u_i^2}$ |     |   |   |     |      | 10.7 | 10.6 | 257 |
| Expanded uncertainty (confidence interval of 95 %) |                             | $u_e = 2u_c$                               |     |   |   |     |      | 21.4 | 21.1 |     |

### 16.3 Measurement Uncertainty for Fast SAR Tests (300MHz~3GHz)

| No.                        | Error Description                               | Type | Uncertainty value | Probably Distribution | Div.       | (Ci) 1g | (Ci) 10g | Std. Unc. (1g) | Std. Unc. (10g) | Degree of freedom |
|----------------------------|---|------|-------------------|-----------------------|------------|---------|----------|----------------|-----------------|-------------------|
| <b>Measurement system</b>  |   |      |                   |                       |            |         |          |                |                 |                   |
| 1                          | Probe calibration                               | B    | 6.0               | N                     | 1          | 1       | 1        | 6.0            | 6.0             | ∞                 |
| 2                          | Isotropy  | B    | 4.7               | R                     | $\sqrt{3}$ | 0.7     | 0.7      | 1.9            | 1.9             | ∞                 |
| 3                          | Boundary effect                                 | B    | 1.0               | R                     | $\sqrt{3}$ | 1       | 1        | 0.6            | 0.6             | ∞                 |
| 4                          | Linearity                                       | B    | 4.7               | R                     | $\sqrt{3}$ | 1       | 1        | 2.7            | 2.7             | ∞                 |
| 5                          | Detection limit                                 | B    | 1.0               | R                     | $\sqrt{3}$ | 1       | 1        | 0.6            | 0.6             | ∞                 |
| 6                          | Readout electronics                             | B    | 0.3               | R                     | $\sqrt{3}$ | 1       | 1        | 0.3            | 0.3             | ∞                 |
| 7                          | Response time                                   | B    | 0.8               | R                     | $\sqrt{3}$ | 1       | 1        | 0.5            | 0.5             | ∞                 |
| 8                          | Integration time                                | B    | 2.6               | R                     | $\sqrt{3}$ | 1       | 1        | 1.5            | 1.5             | ∞                 |
| 9                          | RF ambient conditions-noise                     | B    | 0                 | R                     | $\sqrt{3}$ | 1       | 1        | 0              | 0               | ∞                 |
| 10                         | RFambient conditions-reflection                 | B    | 0                 | R                     | $\sqrt{3}$ | 1       | 1        | 0              | 0               | ∞                 |
| 11                         | Probe positioned mech. Restrictions             | B    | 0.4               | R                     | $\sqrt{3}$ | 1       | 1        | 0.2            | 0.2             | ∞                 |
| 12                         | Probe positioning with respect to phantom shell | B    | 2.9               | R                     | $\sqrt{3}$ | 1       | 1        | 1.7            | 1.7             | ∞                 |
| 13                         | Post-processing                                 | B    | 1.0               | R                     | $\sqrt{3}$ | 1       | 1        | 0.6            | 0.6             | ∞                 |
| 14                         | Fast SAR z-Approximation                        | B    | 7.0               | R                     | $\sqrt{3}$ | 1       | 1        | 4.0            | 4.0             | ∞                 |
| <b>Test sample related</b> |   |      |                   |                       |            |         |          |                |                 |                   |
| 15                         | Test sample positioning                         | A    | 3.3               | N                     | 1          | 1       | 1        | 3.3            | 3.3             | 71                |
| 16                         | Device holder uncertainty                       | A    | 3.4               | N                     | 1          | 1       | 1        | 3.4            | 3.4             | 5                 |
| 17                         | Drift of output power                           | B    | 5.0               | R                     | $\sqrt{3}$ | 1       | 1        | 2.9            | 2.9             | ∞                 |
| <b>Phantom and set-up</b>  |   |      |                   |                       |            |         |          |                |                 |                   |
| 18                         | Phantom uncertainty                             | B    | 4.0               | R                     | $\sqrt{3}$ | 1       | 1        | 2.3            | 2.3             | ∞                 |
| 19                         | Liquid conductivity (target)                    | B    | 5.0               | R                     | $\sqrt{3}$ | 0.64    | 0.43     | 1.8            | 1.2             | ∞                 |

|  |                              |  |      |   |            |      |      |      |      |          |
|--|------------------------------|--|------|---|------------|------|------|------|------|----------|
| 20   | Liquid conductivity (meas.)  | A  | 2.06 | N | 1          | 0.64 | 0.43 | 1.32 | 0.89 | 43       |
| 21   | Liquid permittivity (target) | B  | 5.0  | R | $\sqrt{3}$ | 0.6  | 0.49 | 1.7  | 1.4  | $\infty$ |
| 22   | Liquid permittivity (meas.)  | A  | 1.6  | N | 1          | 0.6  | 0.49 | 1.0  | 0.8  | 521      |
| Combined standard uncertainty                      |                              | $u_c = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$ |      |   |            |      |      | 10.4 | 10.3 | 257      |
| Expanded uncertainty (confidence interval of 95 %) |                              | $u_e = 2u_c$                               |      |   |            |      |      | 20.8 | 20.6 |          |

#### 16.4 Measurement Uncertainty for Fast SAR Tests (3~6GHz)

| No.                        | Error Description                               | Type | Uncertainty value | Probably Distribution | Div.       | (Ci) 1g | (Ci) 10g | Std. Unc. (1g) | Std. Unc. (10g) | Degree of freedom |
|----------------------------|---|------|-------------------|-----------------------|------------|---------|----------|----------------|-----------------|-------------------|
| <b>Measurement system</b>  |   |      |                   |                       |            |         |          |                |                 |                   |
| 1                          | Probe calibration                               | B    | 6.55              | N                     | 1          | 1       | 1        | 6.55           | 6.55            | $\infty$          |
| 2                          | Isotropy  | B    | 4.7               | R                     | $\sqrt{3}$ | 0.7     | 0.7      | 1.9            | 1.9             | $\infty$          |
| 3                          | Boundary effect                                 | B    | 2.0               | R                     | $\sqrt{3}$ | 1       | 1        | 1.2            | 1.2             | $\infty$          |
| 4                          | Linearity                                       | B    | 4.7               | R                     | $\sqrt{3}$ | 1       | 1        | 2.7            | 2.7             | $\infty$          |
| 5                          | Detection limit                                 | B    | 1.0               | R                     | $\sqrt{3}$ | 1       | 1        | 0.6            | 0.6             | $\infty$          |
| 6                          | Readout electronics                             | B    | 0.3               | R                     | $\sqrt{3}$ | 1       | 1        | 0.3            | 0.3             | $\infty$          |
| 7                          | Response time                                   | B    | 0.8               | R                     | $\sqrt{3}$ | 1       | 1        | 0.5            | 0.5             | $\infty$          |
| 8                          | Integration time                                | B    | 2.6               | R                     | $\sqrt{3}$ | 1       | 1        | 1.5            | 1.5             | $\infty$          |
| 9                          | RF ambient conditions-noise                     | B    | 0                 | R                     | $\sqrt{3}$ | 1       | 1        | 0              | 0               | $\infty$          |
| 10                         | RFambient conditions-reflection                 | B    | 0                 | R                     | $\sqrt{3}$ | 1       | 1        | 0              | 0               | $\infty$          |
| 11                         | Probe positioned mech. Restrictions             | B    | 0.8               | R                     | $\sqrt{3}$ | 1       | 1        | 0.5            | 0.5             | $\infty$          |
| 12                         | Probe positioning with respect to phantom shell | B    | 6.7               | R                     | $\sqrt{3}$ | 1       | 1        | 3.9            | 3.9             | $\infty$          |
| 13                         | Post-processing                                 | B    | 1.0               | R                     | $\sqrt{3}$ | 1       | 1        | 0.6            | 0.6             | $\infty$          |
| 14                         | Fast SAR z-Approximation                        | B    | 14.0              | R                     | $\sqrt{3}$ | 1       | 1        | 8.1            | 8.1             | $\infty$          |
| <b>Test sample related</b> |   |      |                   |                       |            |         |          |                |                 |                   |
| 15                         | Test sample positioning                         | A    | 3.3               | N                     | 1          | 1       | 1        | 3.3            | 3.3             | 71                |
| 16                         | Device holder uncertainty                       | A    | 3.4               | N                     | 1          | 1       | 1        | 3.4            | 3.4             | 5                 |



|  |                              |  |      |   |            |      |      |      |      |          |
|--|------------------------------|--|------|---|------------|------|------|------|------|----------|
| 17   | Drift of output power        | B  | 5.0  | R | $\sqrt{3}$ | 1    | 1    | 2.9  | 2.9  | $\infty$ |
| <b>Phantom and set-up</b>                          |                              |  |      |   |            |      |      |      |      |          |
| 18   | Phantom uncertainty          | B  | 4.0  | R | $\sqrt{3}$ | 1    | 1    | 2.3  | 2.3  | $\infty$ |
| 19   | Liquid conductivity (target) | B  | 5.0  | R | $\sqrt{3}$ | 0.64 | 0.43 | 1.8  | 1.2  | $\infty$ |
| 20   | Liquid conductivity (meas.)  | A  | 2.06 | N | 1          | 0.64 | 0.43 | 1.32 | 0.89 | 43       |
| 21   | Liquid permittivity (target) | B  | 5.0  | R | $\sqrt{3}$ | 0.6  | 0.49 | 1.7  | 1.4  | $\infty$ |
| 22   | Liquid permittivity (meas.)  | A  | 1.6  | N | 1          | 0.6  | 0.49 | 1.0  | 0.8  | 521      |
| Combined standard uncertainty                      |                              | $u_c = \sqrt{\sum_{i=1}^{22} c_i^2 u_i^2}$ |      |   |            |      |      | 13.5 | 13.4 | 257      |
| Expanded uncertainty (confidence interval of 95 %) |                              | $u_e = 2u_c$                               |      |   |            |      |      | 27.0 | 26.8 |          |

## 17 MAIN TEST INSTRUMENTS

**Table 17.1: List of Main Instruments**

| No. | Name                  | Type          | Serial Number | Calibration Date         | Valid Period |
|-----|-----------------------|---------------|---------------|--------------------------|--------------|
| 01  | Network analyzer      | E5071C        | MY46110673    | January 14, 2022         | One year     |
| 02  | Power sensor          | NRP110T       | 101139        | January 13, 2022         | One year     |
| 03  | Power sensor          | NRP110T       | 101159        |                          |              |
| 04  | Signal Generator      | E4438C        | MY49071430    | January 13, 2022         | One year     |
| 05  | Amplifier             | 60S1G4        | 0331848       | No Calibration Requested |              |
| 06  | BTS                   | CMW500        | 159850        | January 24, 2022         | One year     |
| 07  | E-field Probe         | SPEAG EX3DV4  | 7548          | August 1, 2022           | One year     |
| 08  | DAE                   | SPEAG DAE4    | 1331          | September 1, 2021        | One year     |
| 09  | Dipole Validation Kit | SPEAG D750V3  | 1017          | July 20,,2022            | One year     |
| 10  | Dipole Validation Kit | SPEAG D835V2  | 4d069         | July 20,,2022            | One year     |
| 11  | Dipole Validation Kit | SPEAG D1800V2 | 2d145         | July 18,,2022            | One year     |
| 12  | Dipole Validation Kit | SPEAG D1900V2 | 5d101         | July 26,2022             | One year     |
| 13  | Dipole Validation Kit | SPEAG D2450V2 | 853           | July 20,2022             | One year     |
| 14  | Dipole Validation Kit | SPEAG D2600V2 | 1012          | July 20,2022             | One year     |
| 15  | Dipole Validation Kit | SPEAG D5GHzV2 | 1060          | July 5,2022              | One year     |

\*\*\*END OF REPORT BODY\*\*\*

## ANNEX A Graph Results

### GSM 850 Head

Date: 12/27/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 825 \text{ MHz}$ ;  $\sigma = 0.869 \text{ S/m}$ ;  $\epsilon_r = 42.33$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.9^\circ\text{C}$       Liquid Temperature:  $22.5^\circ\text{C}$

Communication System: GSM850 2TX (0) 824.2 MHz Duty Cycle: 1:4.00037

Probe: EX3DV4 – SN7548 ConvF(10.3, 10.3, 10.3)

**Area Scan (81x141x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.367 \text{ W/kg}$

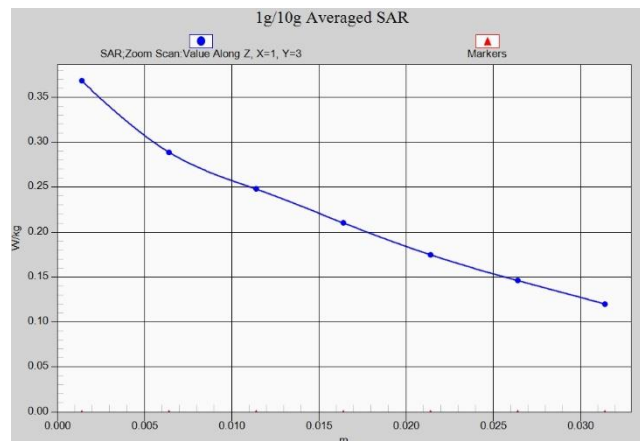
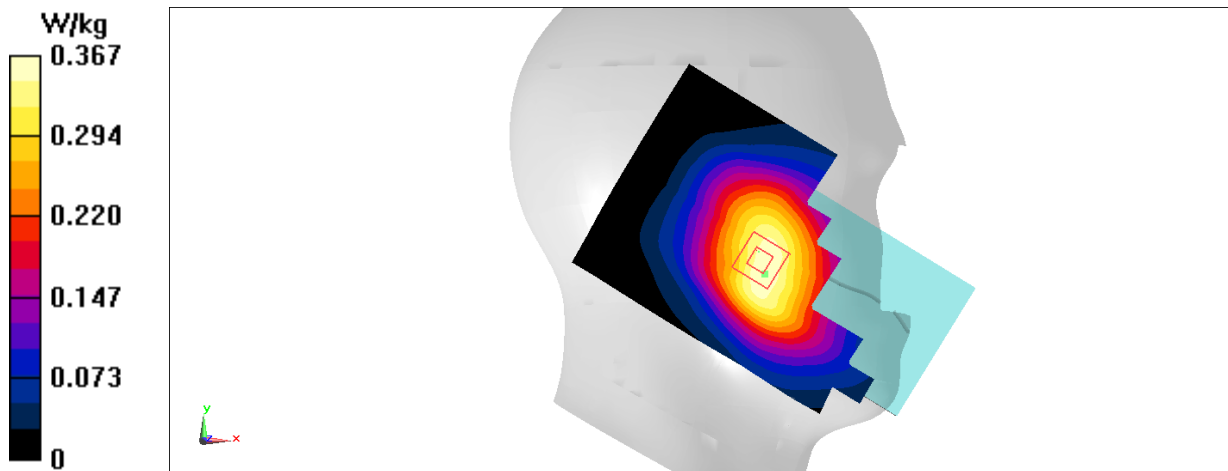
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $6.817 \text{ V/m}$ ; Power Drift =  $0.09 \text{ dB}$

Peak SAR (extrapolated) =  $0.402 \text{ W/kg}$

**SAR(1 g) =  $0.312 \text{ W/kg}$ ; SAR(10 g) =  $0.247 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.368 \text{ W/kg}$



**GSM 850 Body 10mm**

Date: 12/27/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 848.8$  MHz;  $\sigma = 0.881$  S/m;  $\epsilon_r = 42.339$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: GSM850 2TX (0) 848.8 MHz Duty Cycle: 1:4.00037

Probe: EX3DV4 - SN7548 ConvF(10.3, 10.3, 10.3)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.494 W/kg

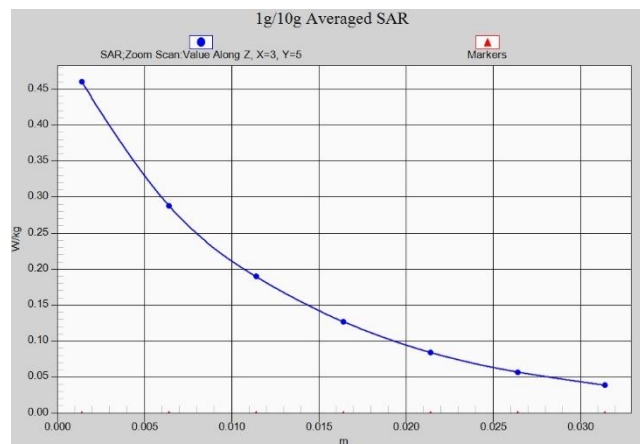
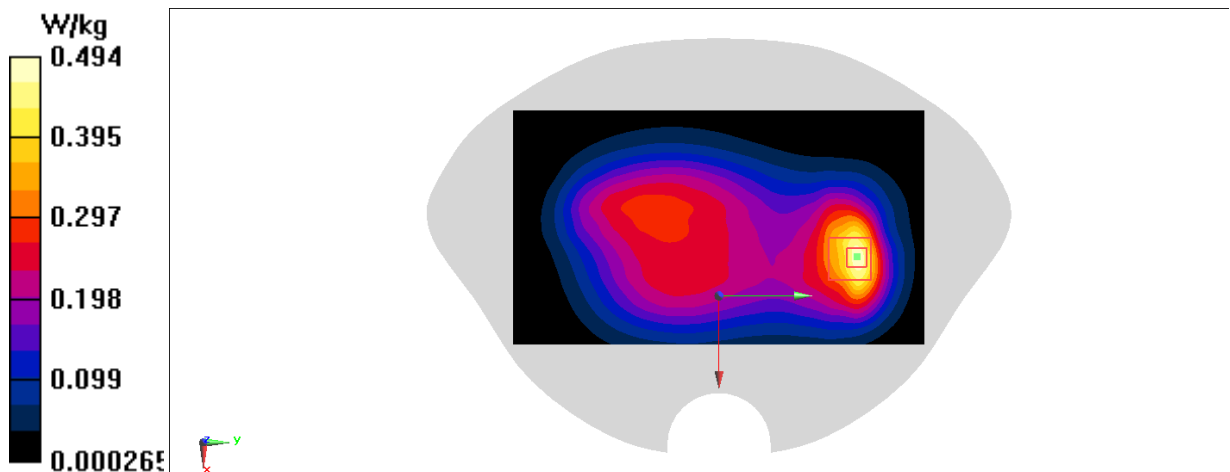
**Zoom Scan (6x8x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 17.08 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 0.537 W/kg

**SAR(1 g) = 0.329 W/kg; SAR(10 g) = 0.207 W/kg**

Maximum value of SAR (measured) = 0.460 W/kg



**GSM 1900 Head**

Date: 12/29/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.421$  S/m;  $\epsilon_r = 40.826$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: GSM1900 2TX (0) 1850.2 MHz Duty Cycle: 1:4.00037

Probe: EX3DV4 - SN7548 ConvF(7.8, 7.8, 7.8)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.335 W/kg

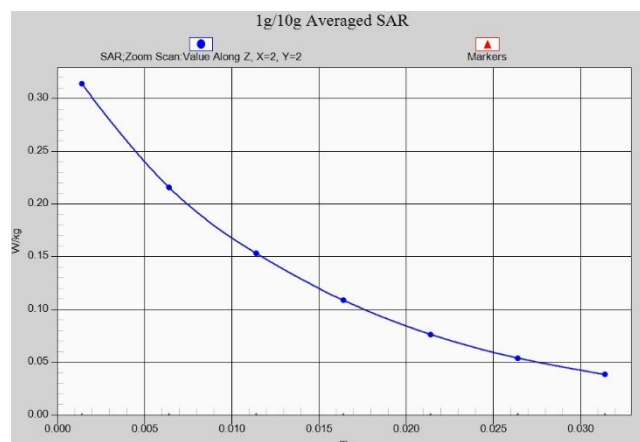
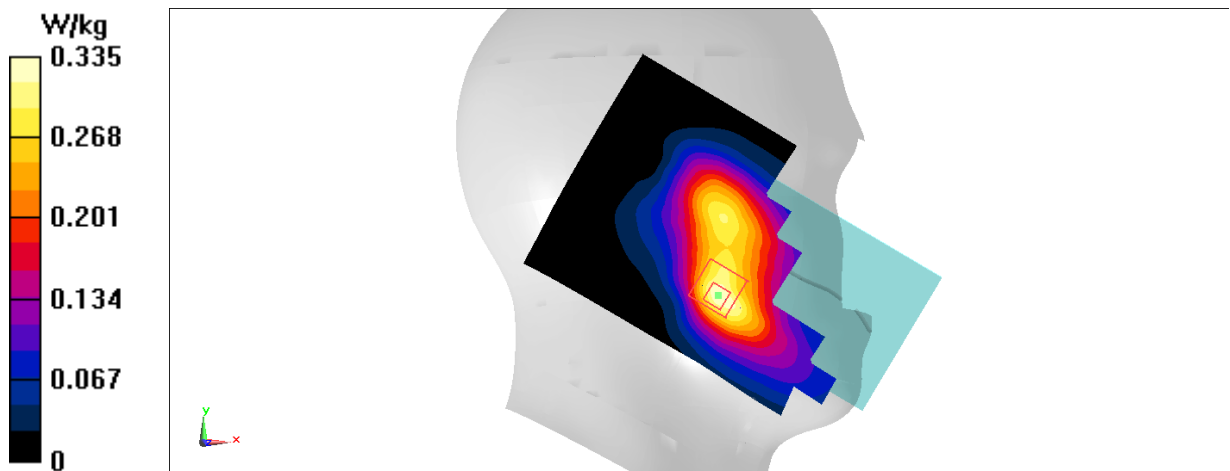
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.340 V/m; Power Drift = 0.08 dB

Peak SAR (extrapolated) = 0.354 W/kg

**SAR(1 g) = 0.239 W/kg; SAR(10 g) = 0.158 W/kg**

Maximum value of SAR (measured) = 0.314 W/kg



**GSM 1900 Body 10mm**

Date: 12/29/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.421$  S/m;  $\epsilon_r = 40.826$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: GSM1900 2TX (0) 1850.2 MHz Duty Cycle: 1:4.00037

Probe: EX3DV4 - SN7548 ConvF(7.8, 7.8, 7.8)

**Area Scan (51x91x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.13 W/kg

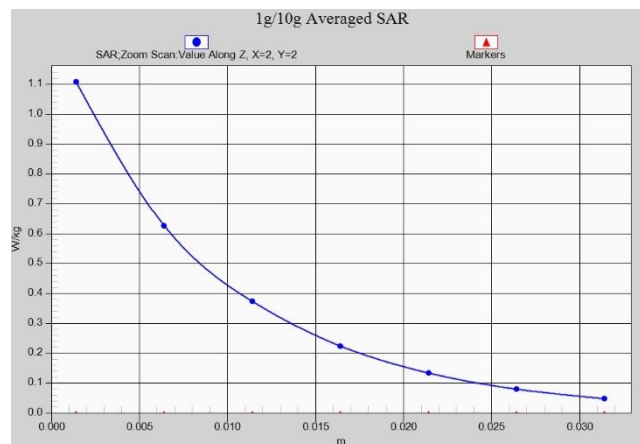
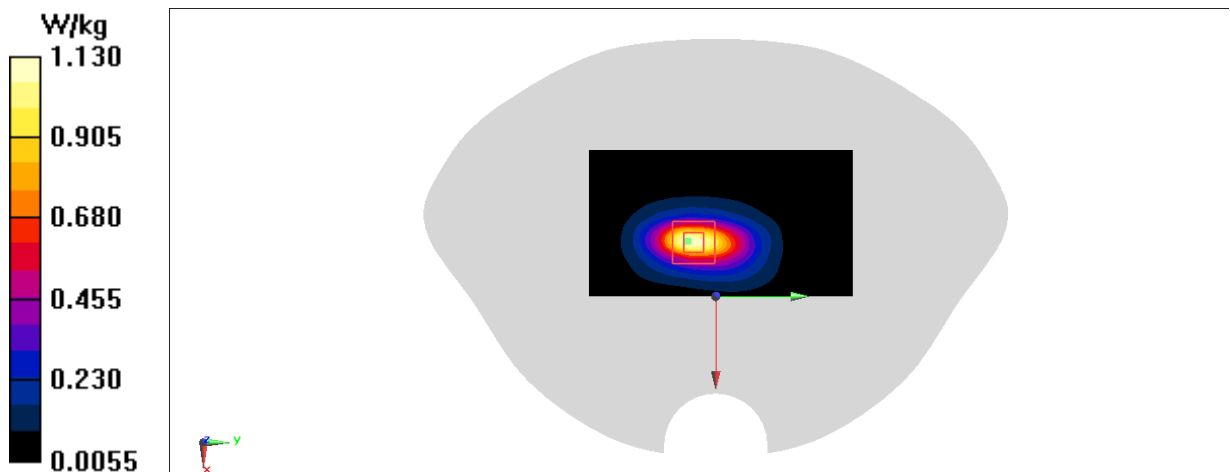
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 25.75 V/m; Power Drift = 0.16 dB

Peak SAR (extrapolated) = 1.37 W/kg

**SAR(1 g) = 0.743 W/kg; SAR(10 g) = 0.381 W/kg**

Maximum value of SAR (measured) = 1.11 W/kg



**GSM 1900 Body 15mm**

Date: 12/29/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1850.2$  MHz;  $\sigma = 1.421$  S/m;  $\epsilon_r = 40.826$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: GSM1900 2TX (0) 1850.2 MHz Duty Cycle: 1:4.00037

Probe: EX3DV4 - SN7548 ConvF(7.8, 7.8, 7.8)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.668 W/kg

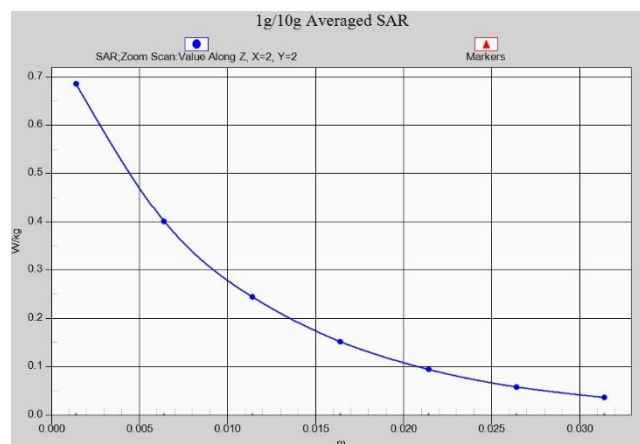
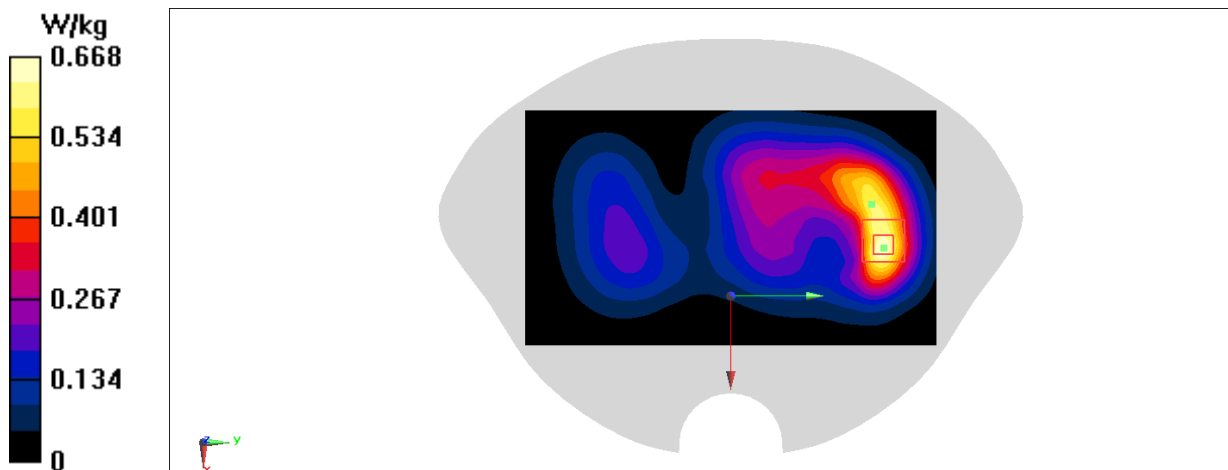
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 11.05 V/m; Power Drift = -0.02 dB

Peak SAR (extrapolated) = 0.809 W/kg

**SAR(1 g) = 0.465 W/kg; SAR(10 g) = 0.264 W/kg**

Maximum value of SAR (measured) = 0.686 W/kg



**WCDMA 850 Head**

Date: 12/27/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 846.6$  MHz;  $\sigma = 0.879$  S/m;  $\epsilon_r = 42.338$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: WCDMA850(B5) (0) 846.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(10.3, 10.3, 10.3)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.350 W/kg

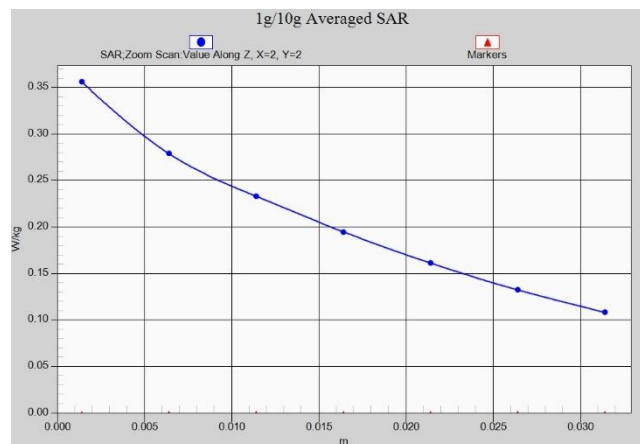
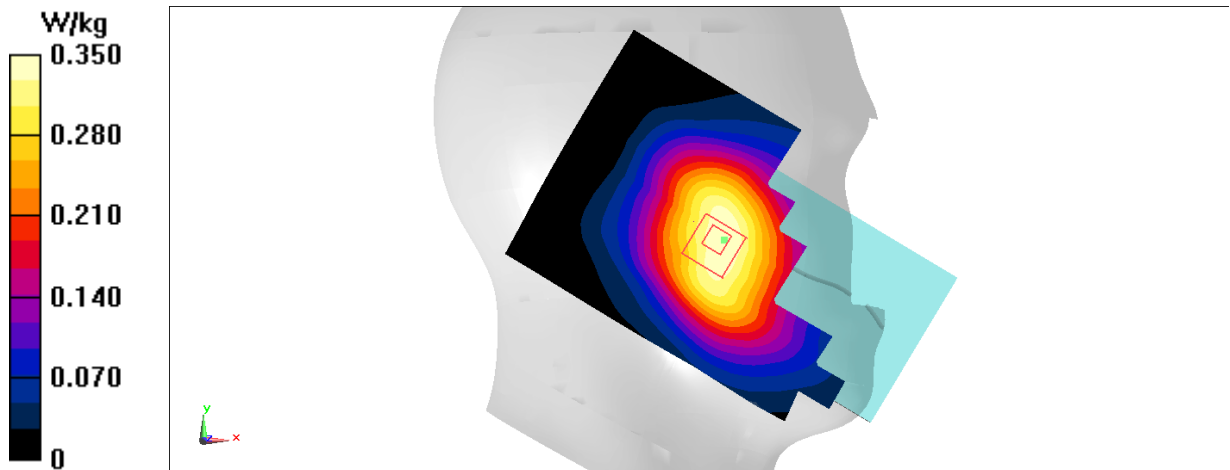
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 6.165 V/m; Power Drift = -0.05 dB

Peak SAR (extrapolated) = 0.390 W/kg

**SAR(1 g) = 0.302 W/kg; SAR(10 g) = 0.239 W/kg**

Maximum value of SAR (measured) = 0.356 W/kg





**WCDMA 850 Body 10mm**

Date: 12/27/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 846.6$  MHz;  $\sigma = 0.879$  S/m;  $\epsilon_r = 42.338$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: WCDMA850(B5) (0) 846.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(10.3, 10.3, 10.3)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.560 W/kg

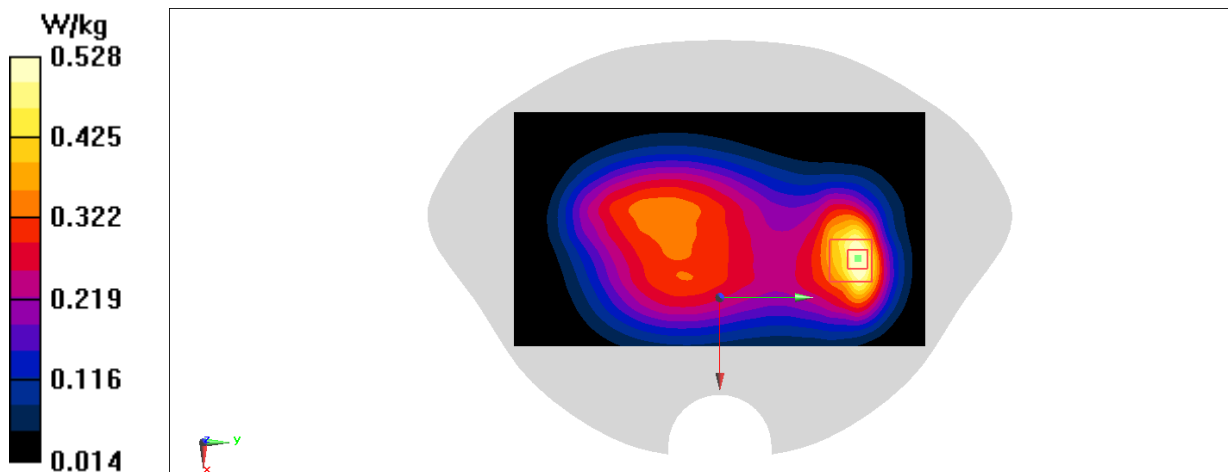
**Zoom Scan (6x8x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 19.11 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.619 W/kg

**SAR(1 g) = 0.379 W/kg; SAR(10 g) = 0.238 W/kg**

Maximum value of SAR (measured) = 0.528 W/kg



**WCDMA 1700 Head**

Date: 12/28/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1752.6$  MHz;  $\sigma = 1.355$  S/m;  $\epsilon_r = 40.797$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: WCDMA1700(B4) (0) 1752.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(8.13, 8.13, 8.13)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.275 W/kg

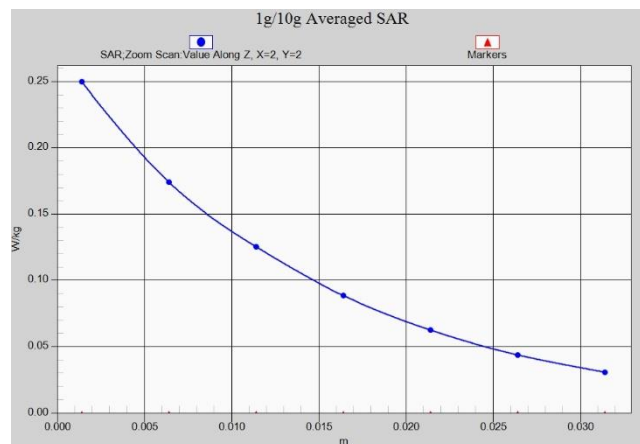
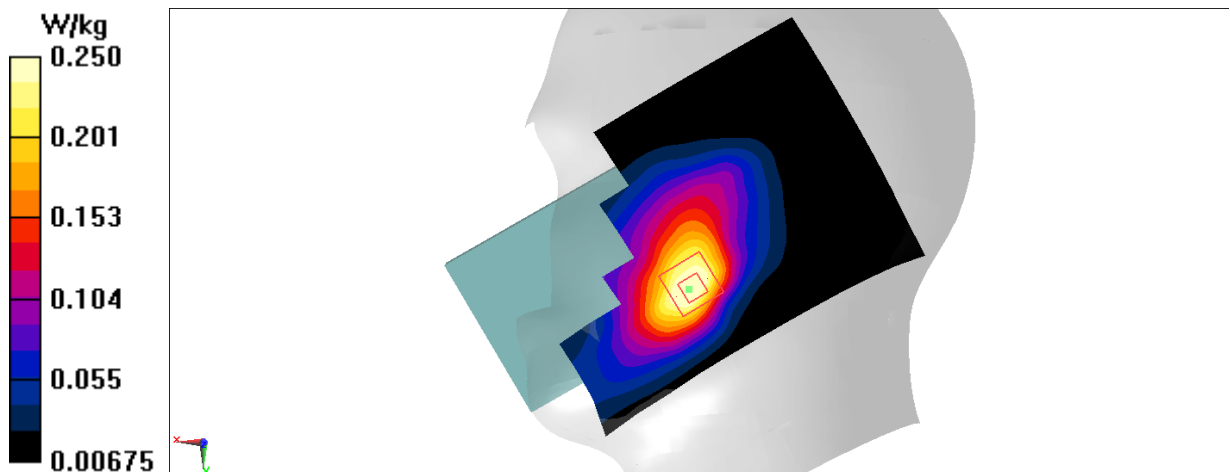
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 3.263 V/m; Power Drift = -0.04 dB

Peak SAR (extrapolated) = 0.282 W/kg

**SAR(1 g) = 0.193 W/kg; SAR(10 g) = 0.128 W/kg**

Maximum value of SAR (measured) = 0.250 W/kg



**WCDMA 1700 Body 10mm**

Date: 12/28/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1712.4$  MHz;  $\sigma = 1.332$  S/m;  $\epsilon_r = 40.874$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: WCDMA1700(B4) (0) 1712.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(8.13, 8.13, 8.13)

**Area Scan (51x91x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.41 W/kg

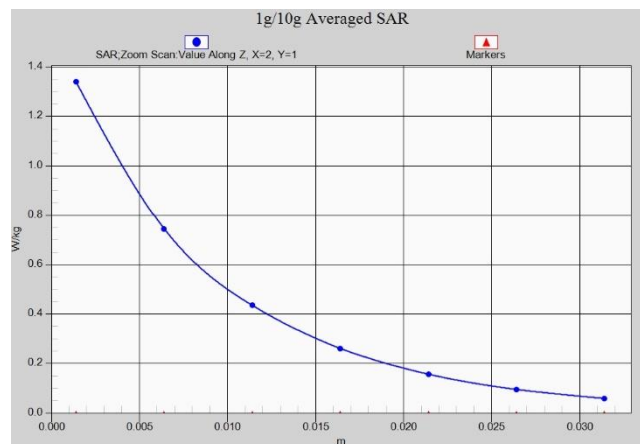
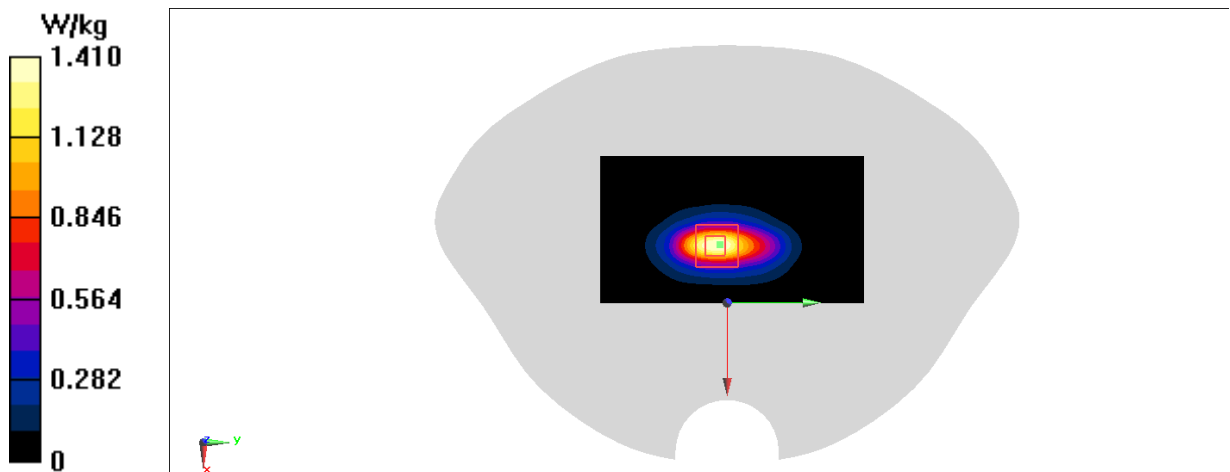
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 30.05 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 1.73 W/kg

**SAR(1 g) = 0.919 W/kg; SAR(10 g) = 0.469 W/kg**

Maximum value of SAR (measured) = 1.34 W/kg



**WCDMA 1700 Body 15mm**

Date: 12/28/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1712.4$  MHz;  $\sigma = 1.332$  S/m;  $\epsilon_r = 40.874$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: WCDMA1700(B4) 1712.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(8.13, 8.13, 8.13)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.87 W/kg

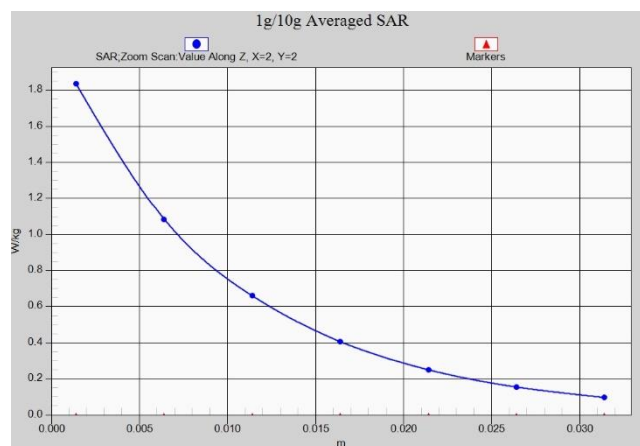
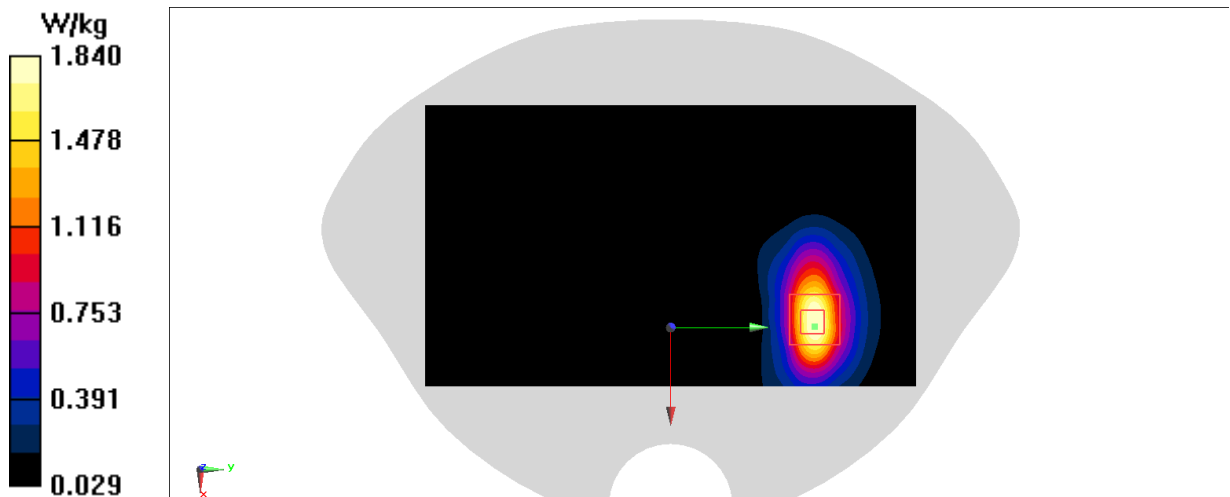
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 7.897 V/m; Power Drift = 0.01 dB

Peak SAR (extrapolated) = 2.17 W/kg

**SAR(1 g) = 1.26 W/kg; SAR(10 g) = 0.695 W/kg**

Maximum value of SAR (measured) = 1.84 W/kg



**WCDMA 1900 Head**

Date: 12/29/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1907.6$  MHz;  $\sigma = 1.417$  S/m;  $\epsilon_r = 40.333$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: WCDMA1900(B2) (0) 1907.6 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(7.8, 7.8, 7.8)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.334 W/kg

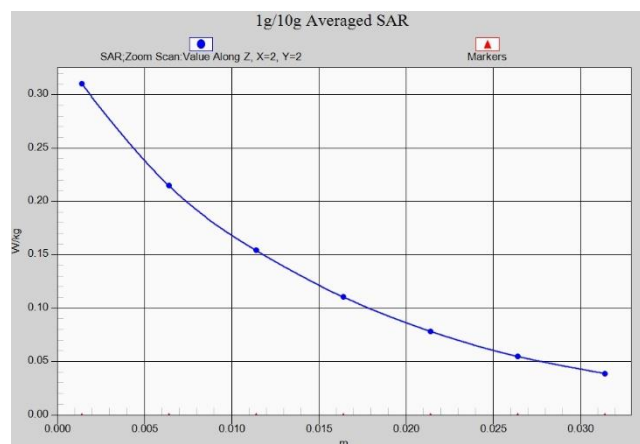
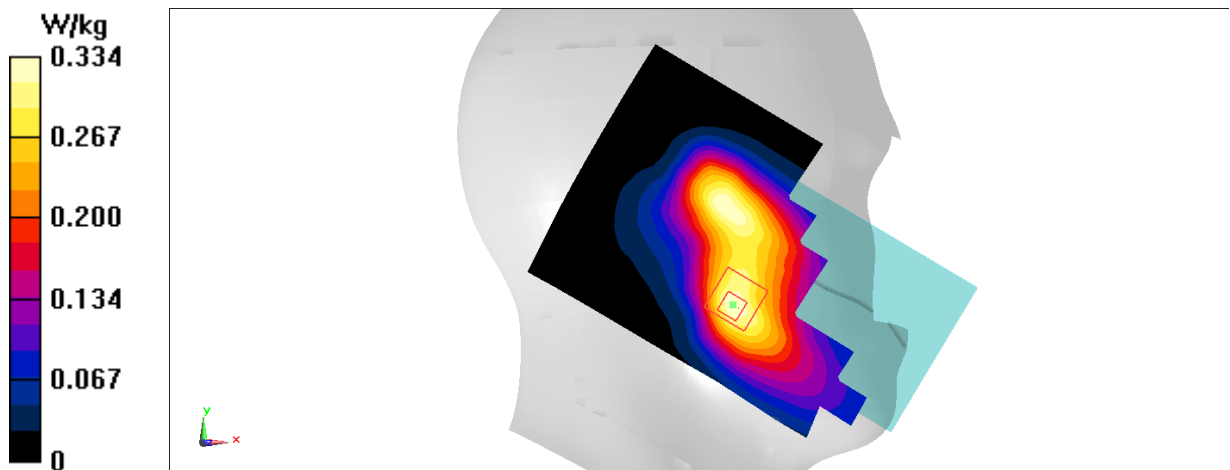
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 4.620 V/m; Power Drift = -0.07 dB

Peak SAR (extrapolated) = 0.350 W/kg

**SAR(1 g) = 0.239 W/kg; SAR(10 g) = 0.159 W/kg**

Maximum value of SAR (measured) = 0.310 W/kg



**WCDMA 1900 Body 10mm**

Date: 12/29/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1852.4$  MHz;  $\sigma = 1.425$  S/m;  $\epsilon_r = 40.832$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: WCDMA1900(B2) (0) 1852.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(7.8, 7.8, 7.8)

**Area Scan (51x91x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.28 W/kg

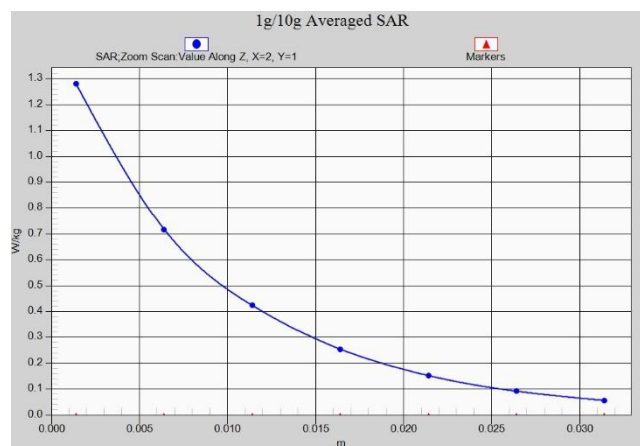
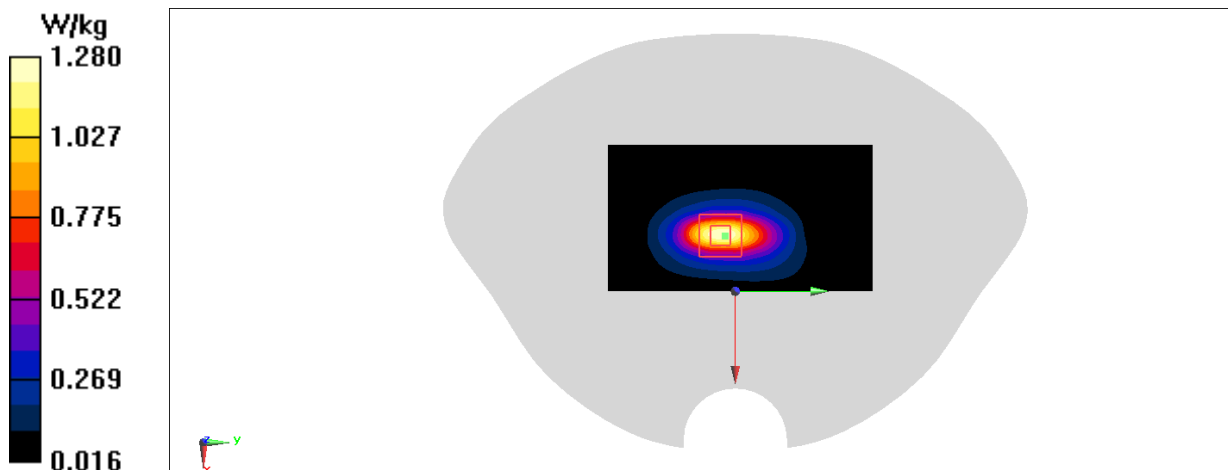
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 28.13 V/m; Power Drift = 0.13 dB

Peak SAR (extrapolated) = 1.58 W/kg

**SAR(1 g) = 0.853 W/kg; SAR(10 g) = 0.437 W/kg**

Maximum value of SAR (measured) = 1.28 W/kg



**WCDMA 1900 Body 15mm**

Date: 12/29/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1852.4$  MHz;  $\sigma = 1.425$  S/m;  $\epsilon_r = 40.832$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: WCDMA1900(B2) 1852.4 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(7.8, 7.8, 7.8)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.508 W/kg

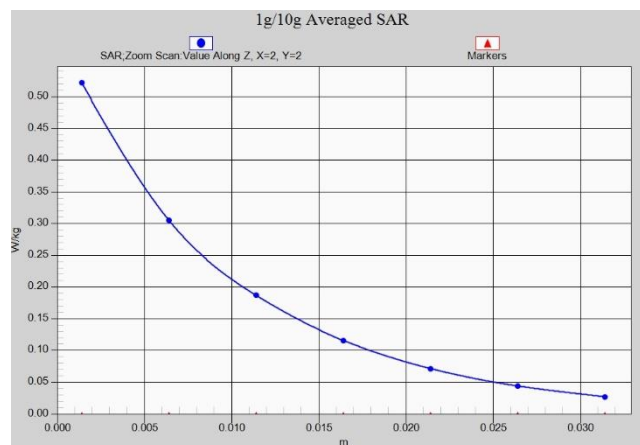
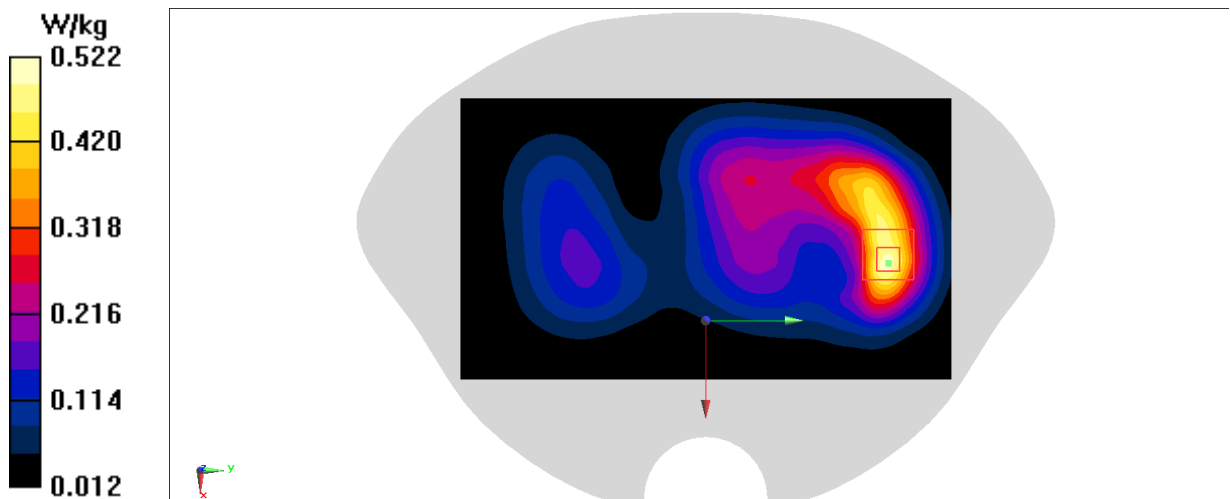
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 9.546 V/m; Power Drift = -0.18 dB

Peak SAR (extrapolated) = 0.616 W/kg

**SAR(1 g) = 0.354 W/kg; SAR(10 g) = 0.201 W/kg**

Maximum value of SAR (measured) = 0.522 W/kg



**LTE B2 Head**

Date: 12/29/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1900 \text{ MHz}$ ;  $\sigma = 1.412 \text{ S/m}$ ;  $\epsilon_r = 40.35$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.9^\circ\text{C}$       Liquid Temperature:  $22.5^\circ\text{C}$

Communication System: LTE Band2 (0) 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(7.8, 7.8, 7.8)

**Area Scan (81x141x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.310 \text{ W/kg}$

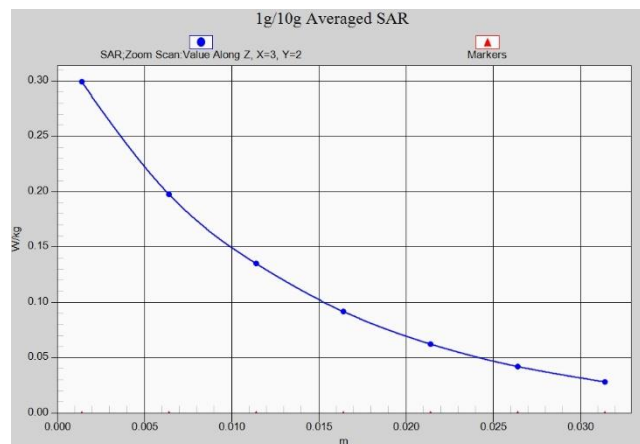
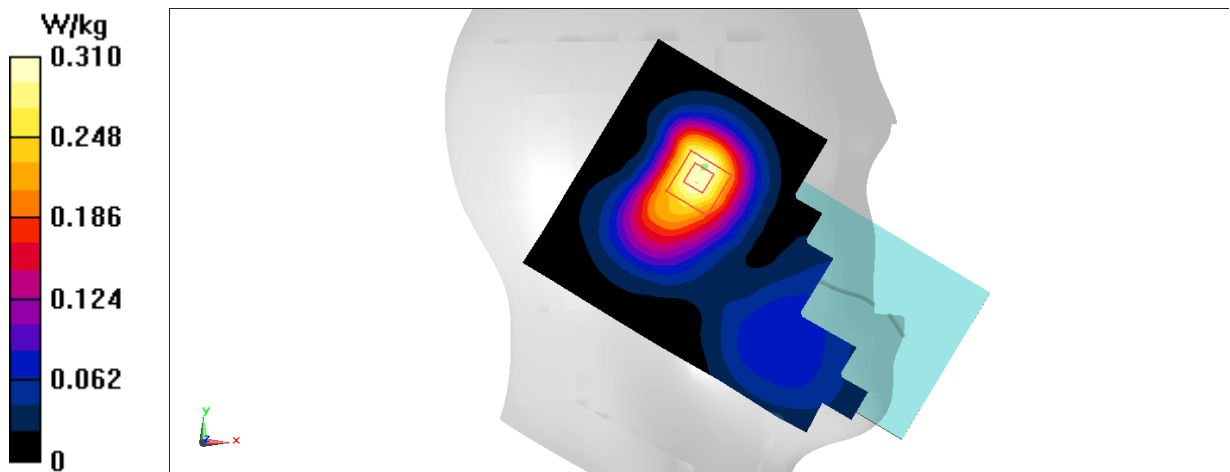
**Zoom Scan (6x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $8.273 \text{ V/m}$ ; Power Drift =  $-0.04 \text{ dB}$

Peak SAR (extrapolated) =  $0.344 \text{ W/kg}$

**SAR(1 g) =  $0.224 \text{ W/kg}$ ; SAR(10 g) =  $0.140 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.299 \text{ W/kg}$





**LTE B2 Body 10mm**

Date: 12/29/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1860$  MHz;  $\sigma = 1.428$  S/m;  $\epsilon_r = 40.834$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band2 (0) 1860 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(7.8, 7.8, 7.8)

**Area Scan (51x91x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.11 W/kg

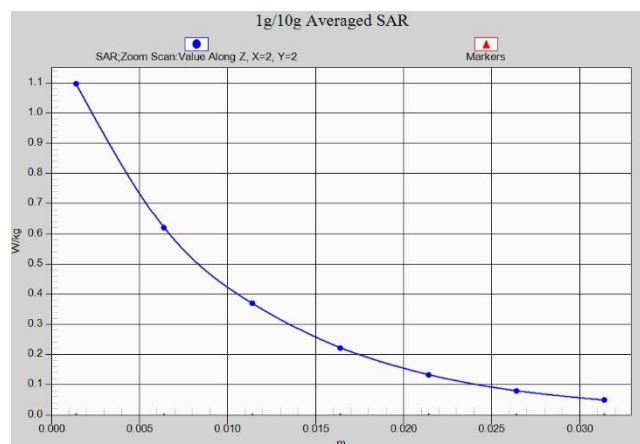
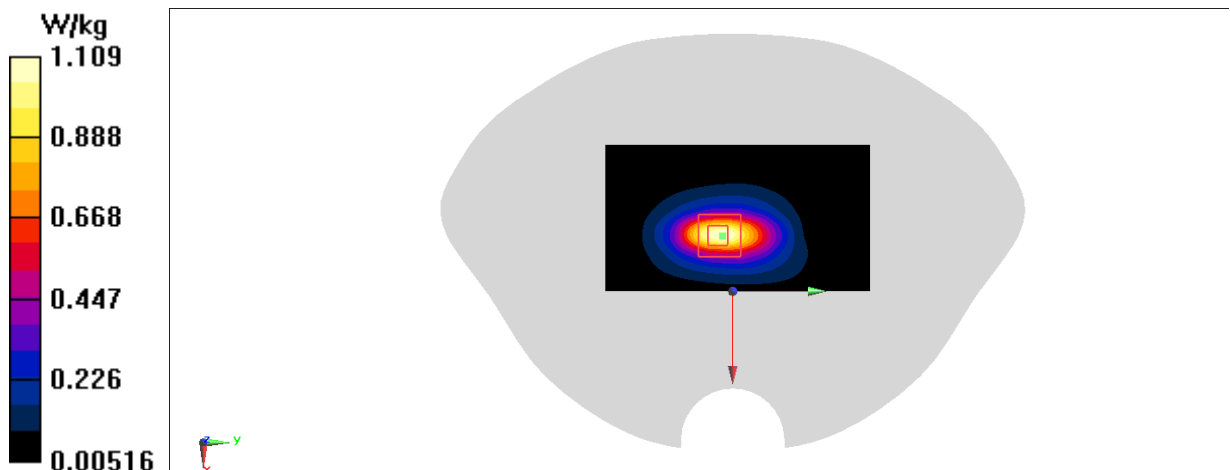
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 26.58 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 1.35 W/kg

**SAR(1 g) = 0.738 W/kg; SAR(10 g) = 0.384 W/kg**

Maximum value of SAR (measured) = 1.10 W/kg



**LTE B2 Body 15mm**

Date: 12/29/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1900$  MHz;  $\sigma = 1.412$  S/m;  $\epsilon_r = 40.35$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band2 1900 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(7.8, 7.8, 7.8)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.561 W/kg

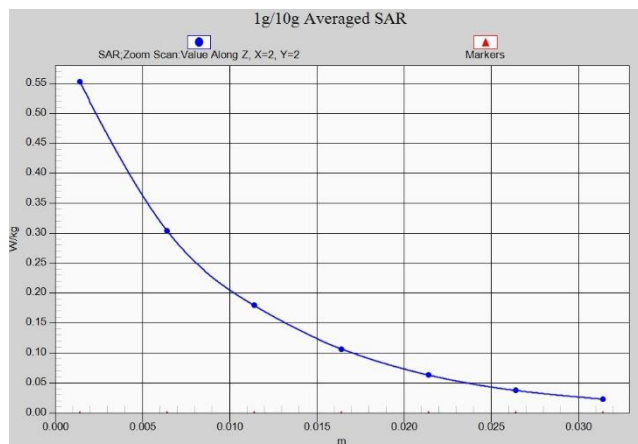
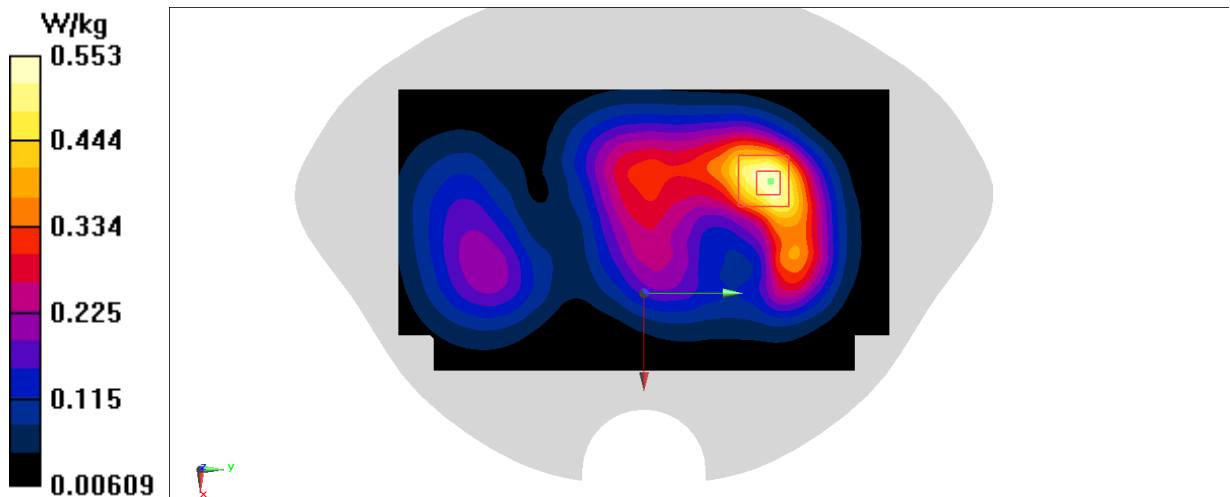
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 12.94 V/m; Power Drift = 0.04 dB

Peak SAR (extrapolated) = 0.668 W/kg

**SAR(1 g) = 0.370 W/kg; SAR(10 g) = 0.212 W/kg**

Maximum value of SAR (measured) = 0.553 W/kg



**LTE B5 Head**

Date: 12/27/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 844 \text{ MHz}$ ;  $\sigma = 0.878 \text{ S/m}$ ;  $\epsilon_r = 42.335$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.9^\circ\text{C}$       Liquid Temperature:  $22.5^\circ\text{C}$

Communication System: LTE Band5 (0) 844 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(10.3, 10.3, 10.3)

**Area Scan (81x141x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.450 \text{ W/kg}$

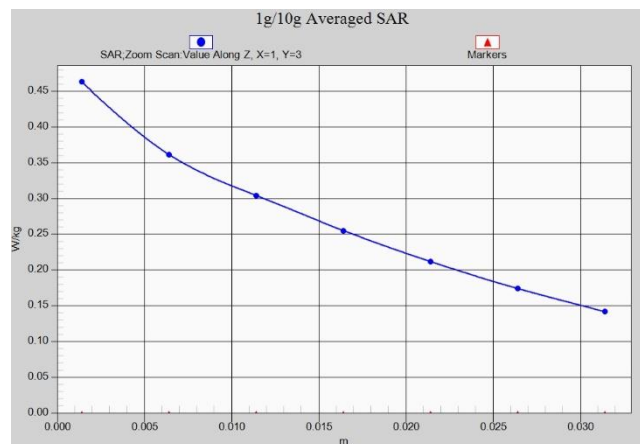
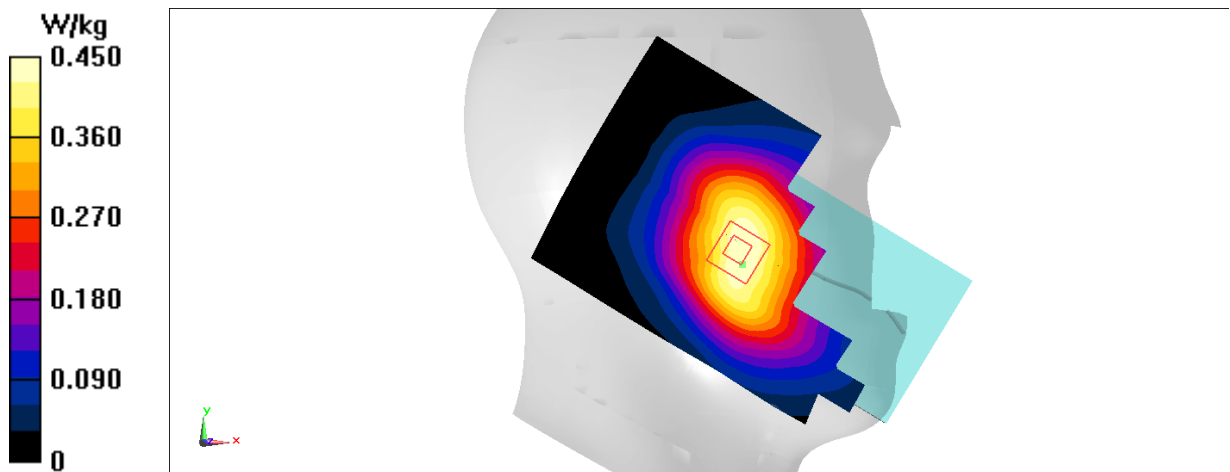
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $6.339 \text{ V/m}$ ; Power Drift =  $0.05 \text{ dB}$

Peak SAR (extrapolated) =  $0.507 \text{ W/kg}$

**SAR(1 g) =  $0.390 \text{ W/kg}$ ; SAR(10 g) =  $0.305 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.463 \text{ W/kg}$



**LTE B5 Body 10mm**

Date: 12/27/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 844 \text{ MHz}$ ;  $\sigma = 0.878 \text{ S/m}$ ;  $\epsilon_r = 42.335$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.9^\circ\text{C}$       Liquid Temperature:  $22.5^\circ\text{C}$

Communication System: LTE Band5 (0) 844 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(10.3, 10.3, 10.3)

**Area Scan (81x141x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.599 \text{ W/kg}$

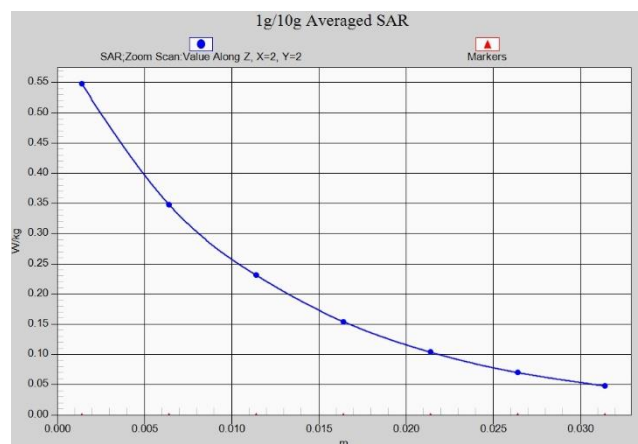
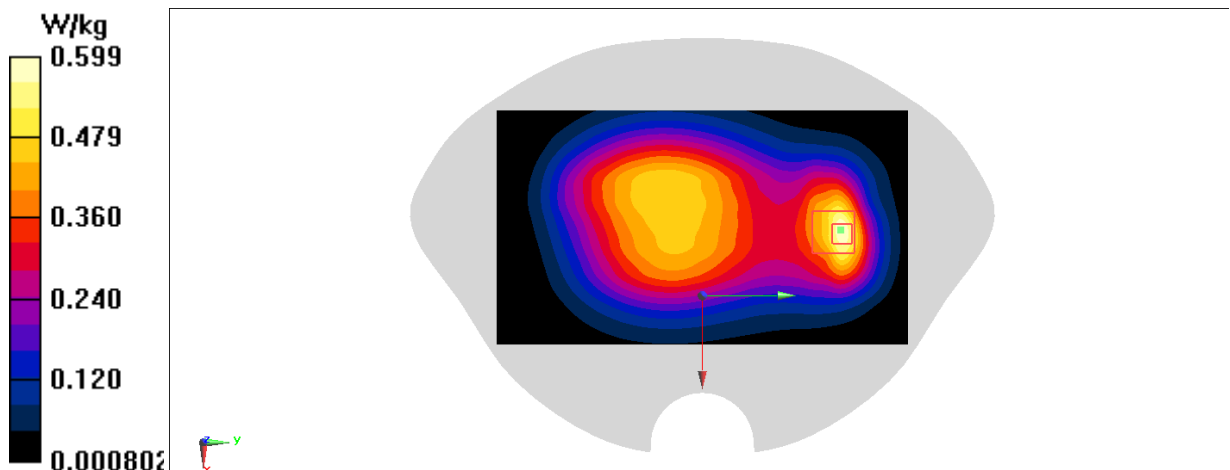
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $22.79 \text{ V/m}$ ; Power Drift =  $-0.02 \text{ dB}$

Peak SAR (extrapolated) =  $0.650 \text{ W/kg}$

**SAR(1 g) =  $0.400 \text{ W/kg}$ ; SAR(10 g) =  $0.254 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.548 \text{ W/kg}$



**LTE B12 Head**

Date: 12/23/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 704 \text{ MHz}$ ;  $\sigma = 0.852 \text{ S/m}$ ;  $\epsilon_r = 42.506$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.9^\circ\text{C}$       Liquid Temperature:  $22.5^\circ\text{C}$

Communication System: LTE Band12 (0) 704 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(10.3, 10.3, 10.3)

**Area Scan (81x141x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.275 \text{ W/kg}$

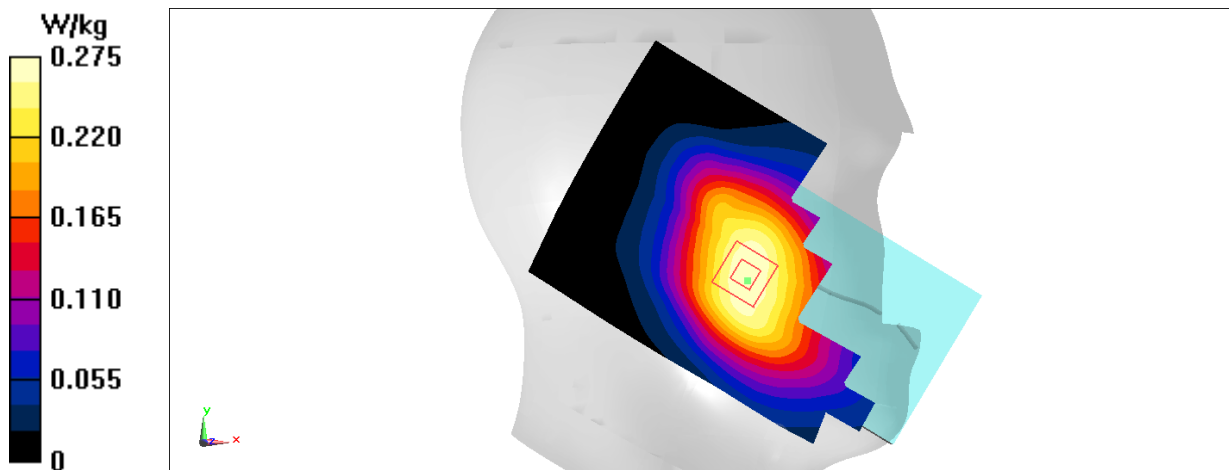
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $5.152 \text{ V/m}$ ; Power Drift =  $-0.07 \text{ dB}$

Peak SAR (extrapolated) =  $0.297 \text{ W/kg}$

**SAR(1 g) =  $0.239 \text{ W/kg}$ ; SAR(10 g) =  $0.192 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.275 \text{ W/kg}$



**LTE B12 Body 10mm**

Date: 12/23/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 704 \text{ MHz}$ ;  $\sigma = 0.852 \text{ S/m}$ ;  $\epsilon_r = 42.506$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.9^\circ\text{C}$       Liquid Temperature:  $22.5^\circ\text{C}$

Communication System: LTE Band12 (0) 704 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(10.3, 10.3, 10.3)

**Area Scan (81x141x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.517 \text{ W/kg}$

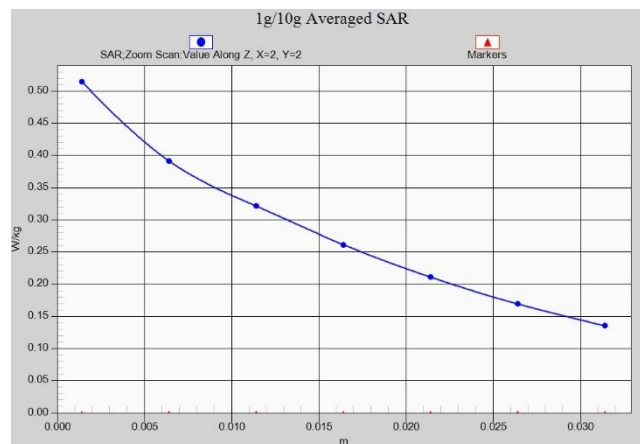
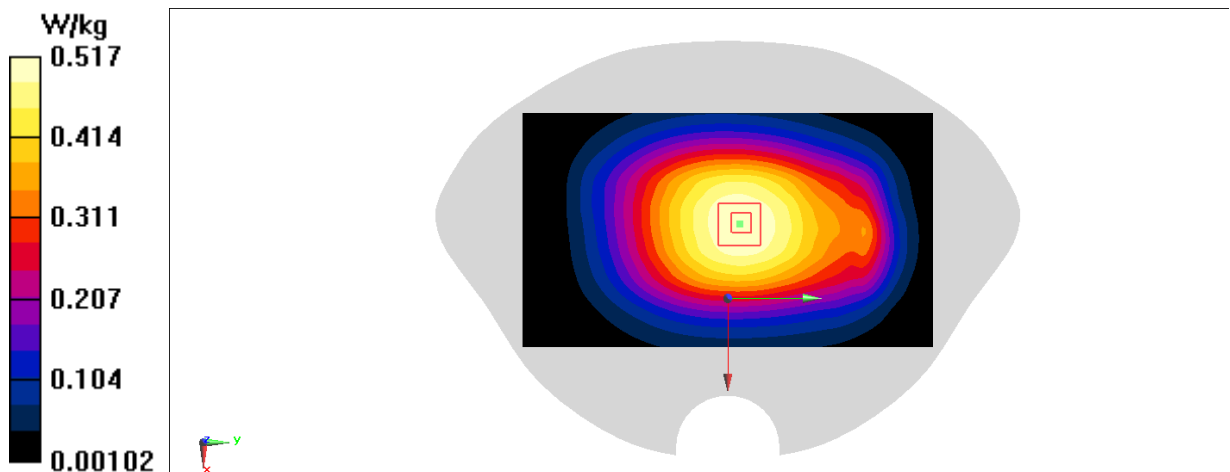
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $26.20 \text{ V/m}$ ; Power Drift =  $-0.09 \text{ dB}$

Peak SAR (extrapolated) =  $0.566 \text{ W/kg}$

**SAR(1 g) =  $0.428 \text{ W/kg}$ ; SAR(10 g) =  $0.336 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.515 \text{ W/kg}$



**LTE B13 Head**

Date: 12/23/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 782 \text{ MHz}$ ;  $\sigma = 0.882 \text{ S/m}$ ;  $\epsilon_r = 44.297$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.9^\circ\text{C}$       Liquid Temperature:  $22.5^\circ\text{C}$

Communication System: LTE Band13 (0) 782 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(10.3, 10.3, 10.3)

**Area Scan (81x141x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.308 \text{ W/kg}$

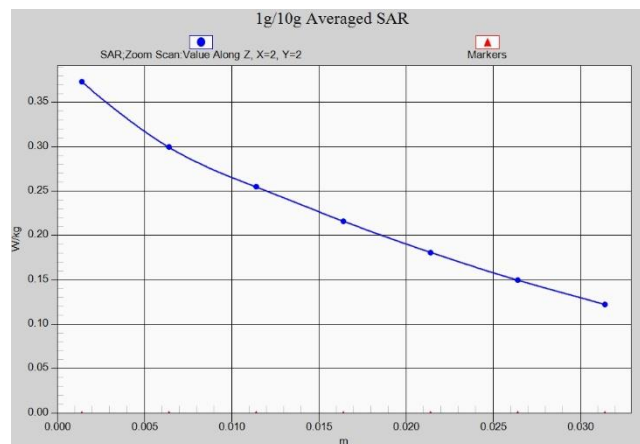
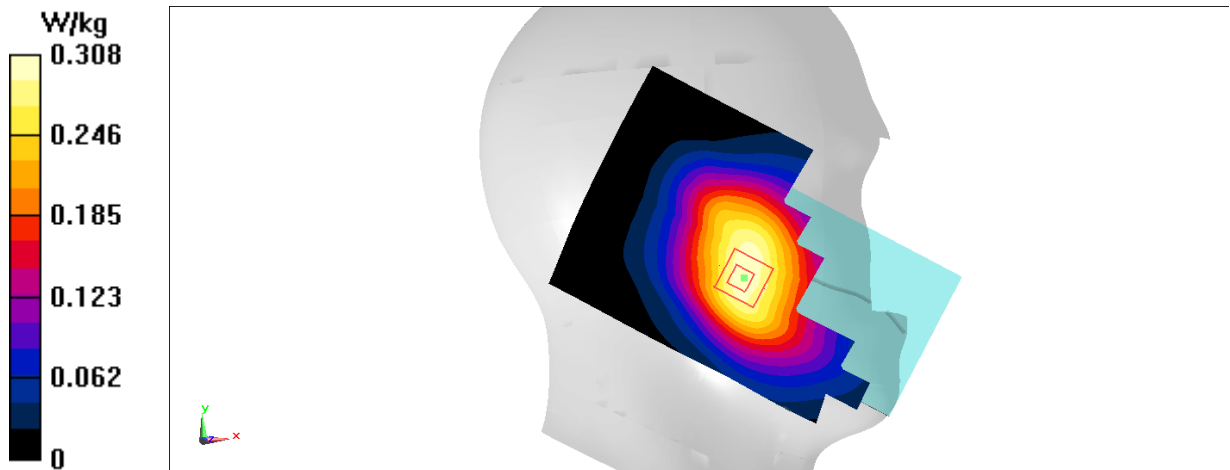
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $5.464 \text{ V/m}$ ; Power Drift =  $0.09 \text{ dB}$

Peak SAR (extrapolated) =  $0.405 \text{ W/kg}$

**SAR(1 g) =  $0.317 \text{ W/kg}$ ; SAR(10 g) =  $0.247 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.373 \text{ W/kg}$



**LTE B13 Body 10mm**

Date: 12/23/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 782 \text{ MHz}$ ;  $\sigma = 0.882 \text{ S/m}$ ;  $\epsilon_r = 44.297$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.9^\circ\text{C}$       Liquid Temperature:  $22.5^\circ\text{C}$

Communication System: LTE Band13 (0) 782 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(10.3, 10.3, 10.3)

**Area Scan (81x141x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.462 \text{ W/kg}$

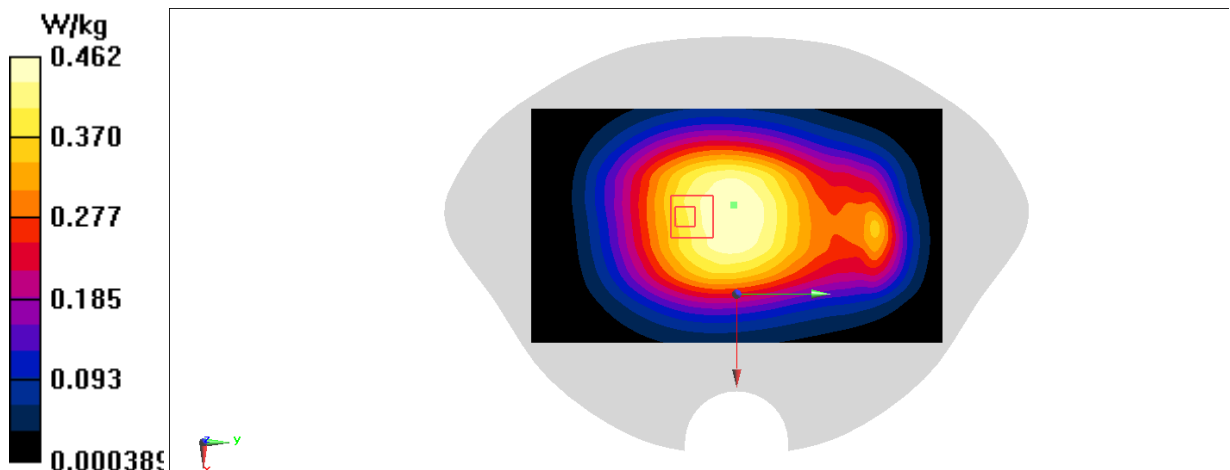
**Zoom Scan (6x8x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $26.31 \text{ V/m}$ ; Power Drift =  $-0.01 \text{ dB}$

Peak SAR (extrapolated) =  $0.584 \text{ W/kg}$

**SAR(1 g) =  $0.409 \text{ W/kg}$ ; SAR(10 g) =  $0.310 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.522 \text{ W/kg}$





**LTE B41(PC3) Head**

Date: 1/5/2023

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 2680$  MHz;  $\sigma = 1.964$  S/m;  $\epsilon_r = 38.696$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band41 (0) 2680 MHz Duty Cycle: 1:1.5787

Probe: EX3DV4 - SN7548 ConvF(7.12, 7.12, 7.12)

**Area Scan (101x171x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.222 W/kg

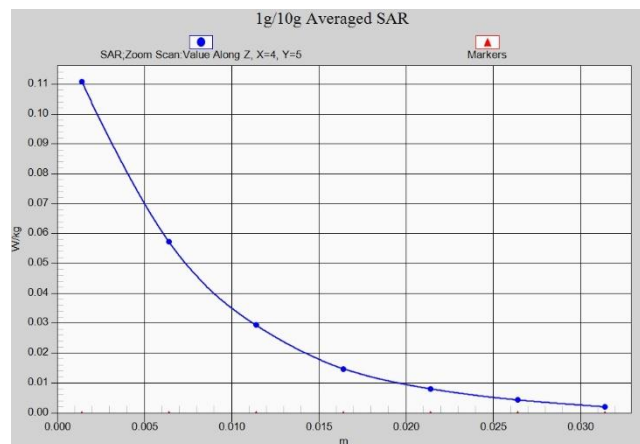
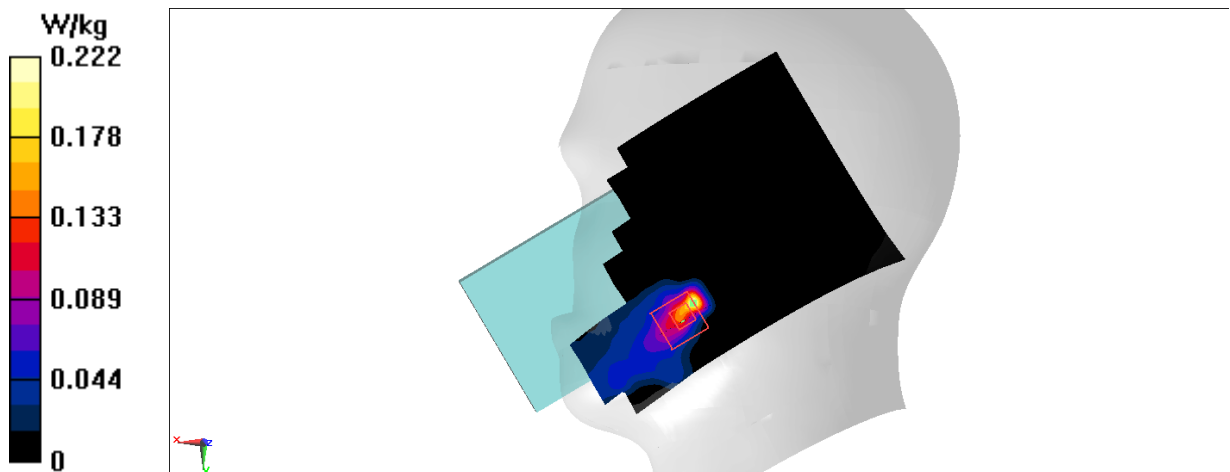
**Zoom Scan (7x9x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 0.8610 V/m; Power Drift = 0.02 dB

Peak SAR (extrapolated) = 0.141 W/kg

**SAR(1 g) = 0.069 W/kg; SAR(10 g) = 0.033 W/kg**

Maximum value of SAR (measured) = 0.111 W/kg



**LTE B41(PC3) Body 10mm**

Date: 1/5/2023

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 2593$  MHz;  $\sigma = 1.888$  S/m;  $\epsilon_r = 38.744$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band41 (0) 2593 MHz Duty Cycle: 1:1.5787

Probe: EX3DV4 - SN7548 ConvF(7.12, 7.12, 7.12)

**Area Scan (61x111x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.86 W/kg

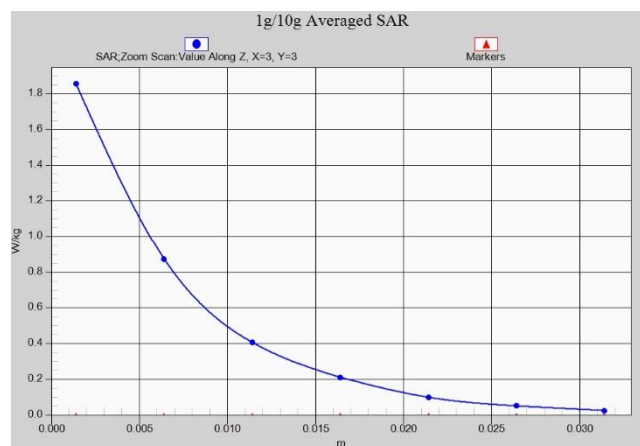
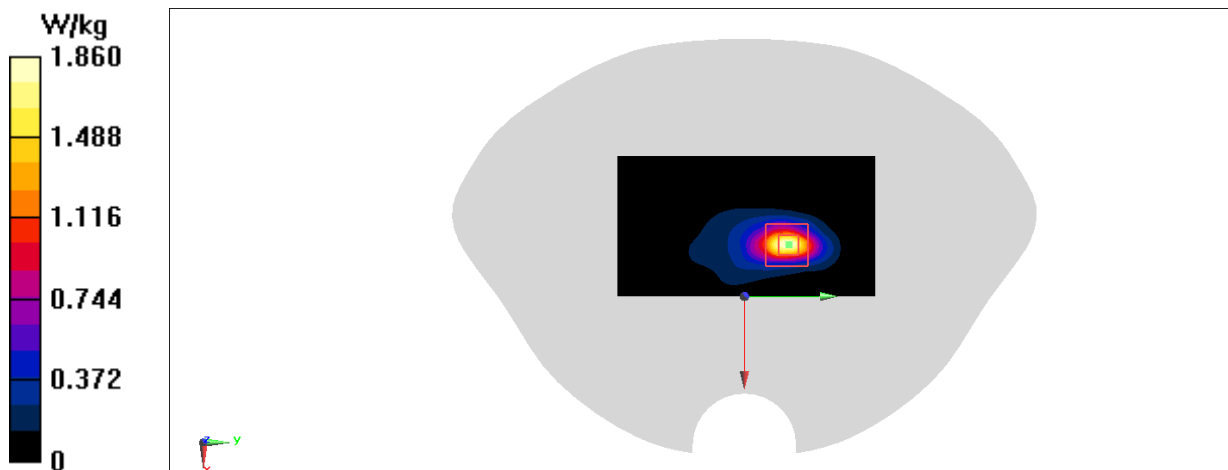
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.36 V/m; Power Drift = -0.09 dB

Peak SAR (extrapolated) = 2.30 W/kg

**SAR(1 g) = 1.06 W/kg; SAR(10 g) = 0.446 W/kg**

Maximum value of SAR (measured) = 1.86 W/kg



**LTE B41(PC2) Head**

Date: 1/5/2023

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 2680$  MHz;  $\sigma = 1.964$  S/m;  $\epsilon_r = 38.696$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band41 (0) 2680 MHz Duty Cycle: 1:1.5787

Probe: EX3DV4 - SN7548 ConvF(7.12, 7.12, 7.12)

**Area Scan (101x171x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.315 W/kg

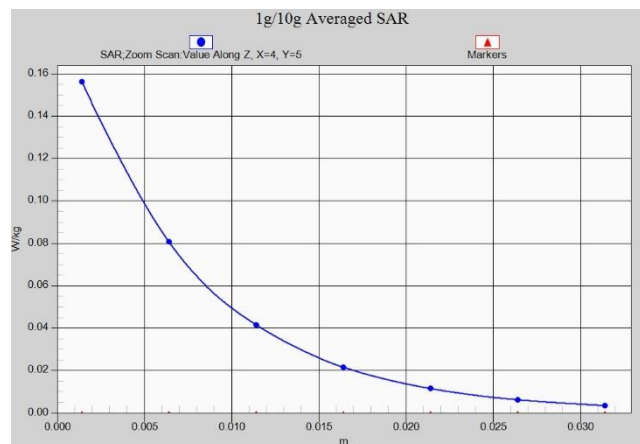
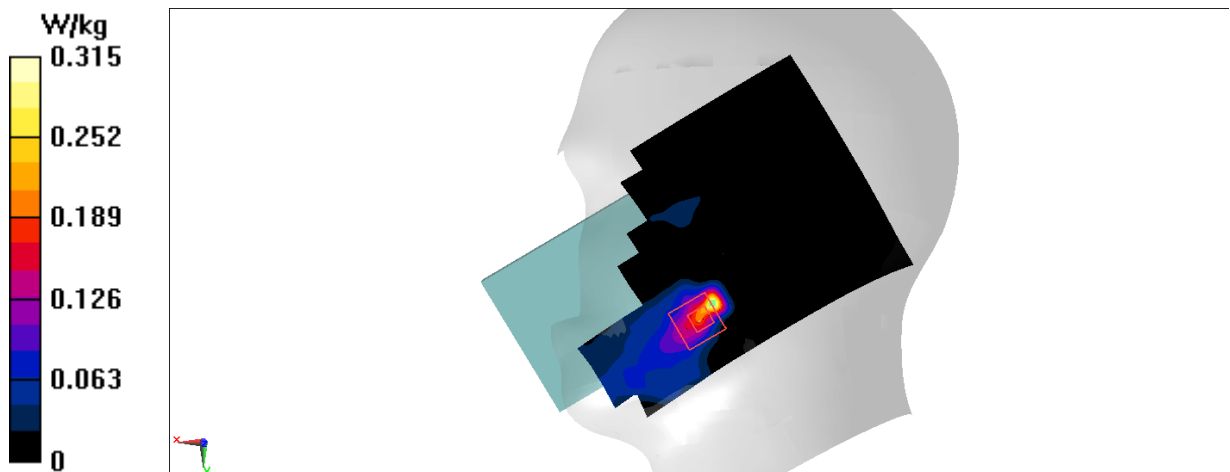
**Zoom Scan (8x9x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 1.272 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 0.193 W/kg

**SAR(1 g) = 0.098 W/kg; SAR(10 g) = 0.047 W/kg**

Maximum value of SAR (measured) = 0.156 W/kg



**LTE B41(PC2) Body 10mm**

Date: 1/5/2023

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 2593$  MHz;  $\sigma = 1.888$  S/m;  $\epsilon_r = 38.744$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band41 (0) 2593 MHz Duty Cycle: 1:1.5787

Probe: EX3DV4 - SN7548 ConvF(7.12, 7.12, 7.12)

**Area Scan (61x111x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 2.14 W/kg

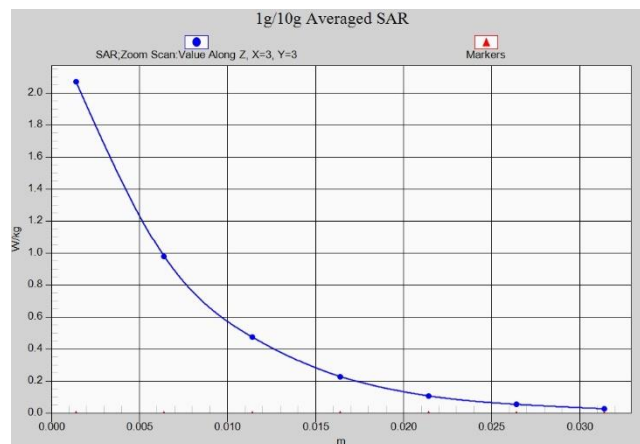
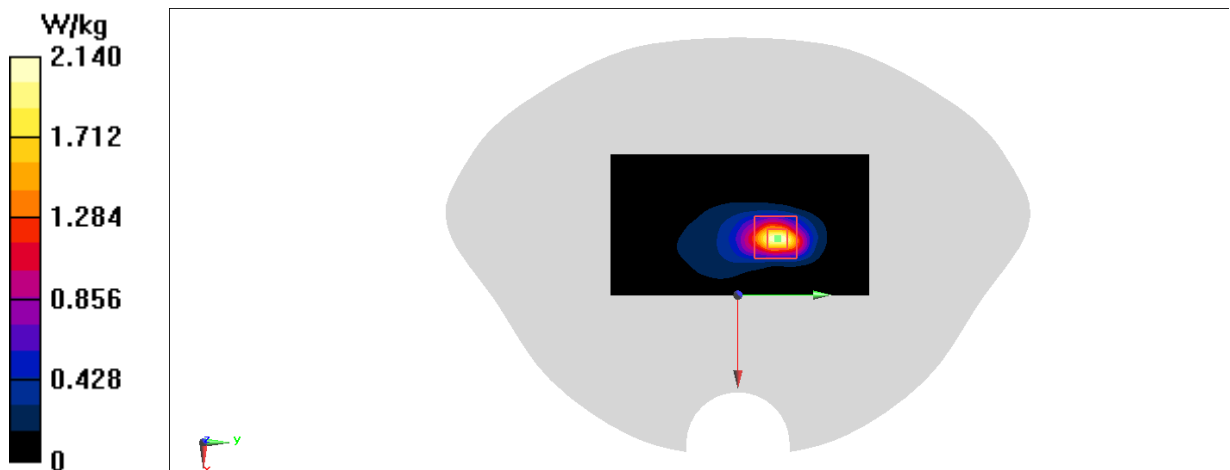
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 18.32 V/m; Power Drift = -0.08 dB

Peak SAR (extrapolated) = 2.58 W/kg

**SAR(1 g) = 1.17 W/kg; SAR(10 g) = 0.489 W/kg**

Maximum value of SAR (measured) = 2.07 W/kg



**LTE B41(PC2) Body 15mm**

Date: 1/5/2023

Electronics: DAE4 Sn1331

Medium: H650-7000M(All1) 2022-Oct-28

Medium parameters used:  $f = 2680$  MHz;  $\sigma = 1.964$  S/m;  $\epsilon_r = 38.696$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band41 2680 MHz Duty Cycle: 1:1.5787

Probe: EX3DV4 - SN7548 ConvF(7.12, 7.12, 7.12)

**Area Scan (101x171x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.883 W/kg

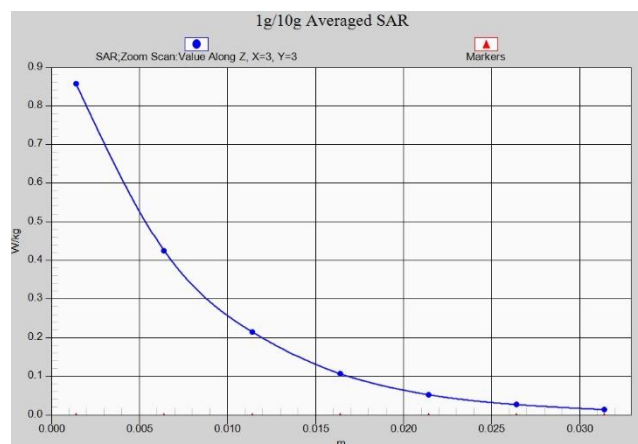
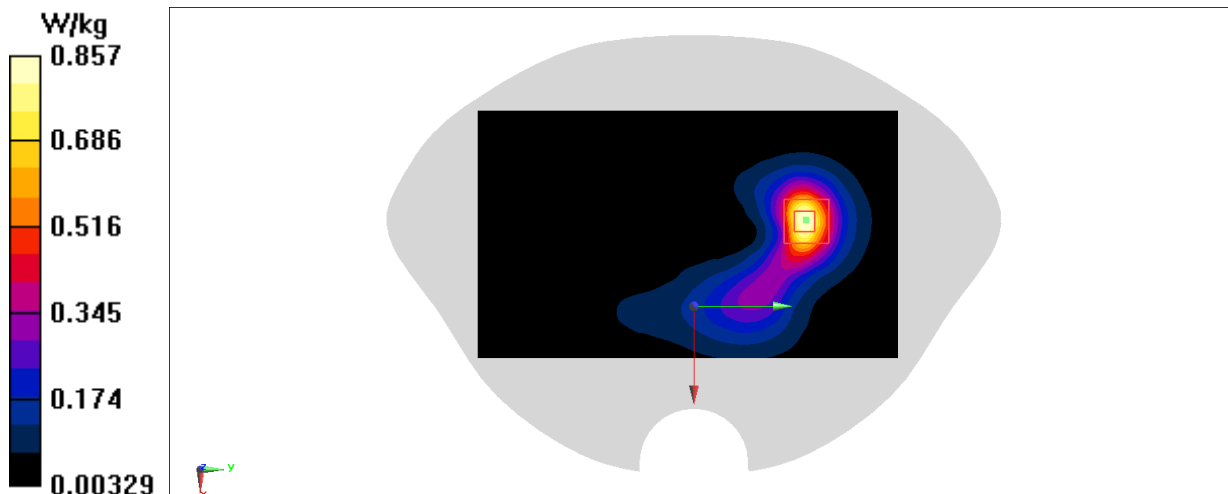
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 4.171 V/m; Power Drift = 0.05 dB

Peak SAR (extrapolated) = 1.07 W/kg

**SAR(1 g) = 0.528 W/kg; SAR(10 g) = 0.250 W/kg**

Maximum value of SAR (measured) = 0.857 W/kg



**LTE B66 Head**

Date: 12/28/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1745$  MHz;  $\sigma = 1.353$  S/m;  $\epsilon_r = 40.806$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band66 (0) 1745 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(8.13, 8.13, 8.13)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 0.215 W/kg

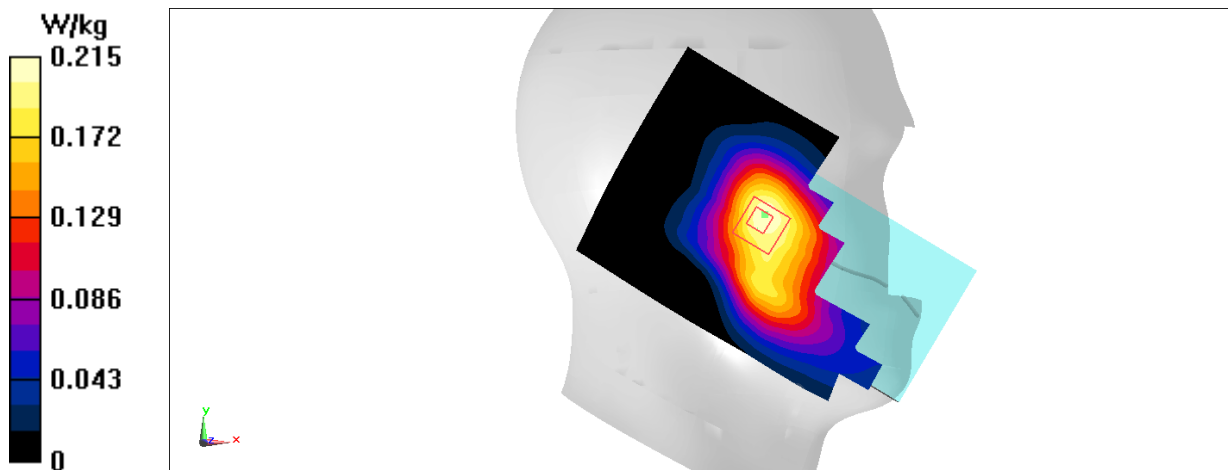
**Zoom Scan (6x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 1.313 V/m; Power Drift = 0.14 dB

Peak SAR (extrapolated) = 0.246 W/kg

**SAR(1 g) = 0.163 W/kg; SAR(10 g) = 0.110 W/kg**

Maximum value of SAR (measured) = 0.213 W/kg



**LTE B66 Body 10mm**

Date: 12/28/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.339$  S/m;  $\epsilon_r = 40.847$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band66 (0) 1720 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(8.13, 8.13, 8.13)

**Area Scan (51x91x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.54 W/kg

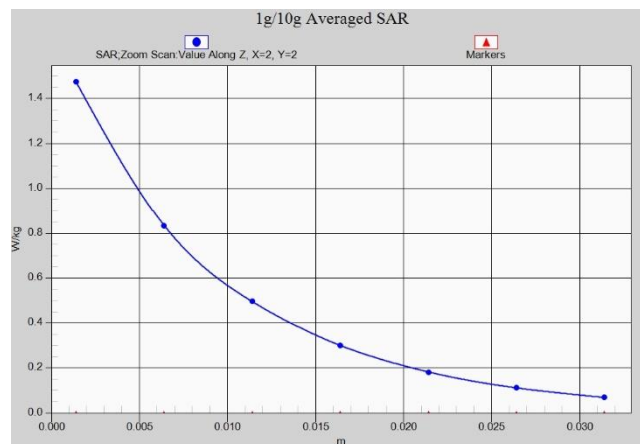
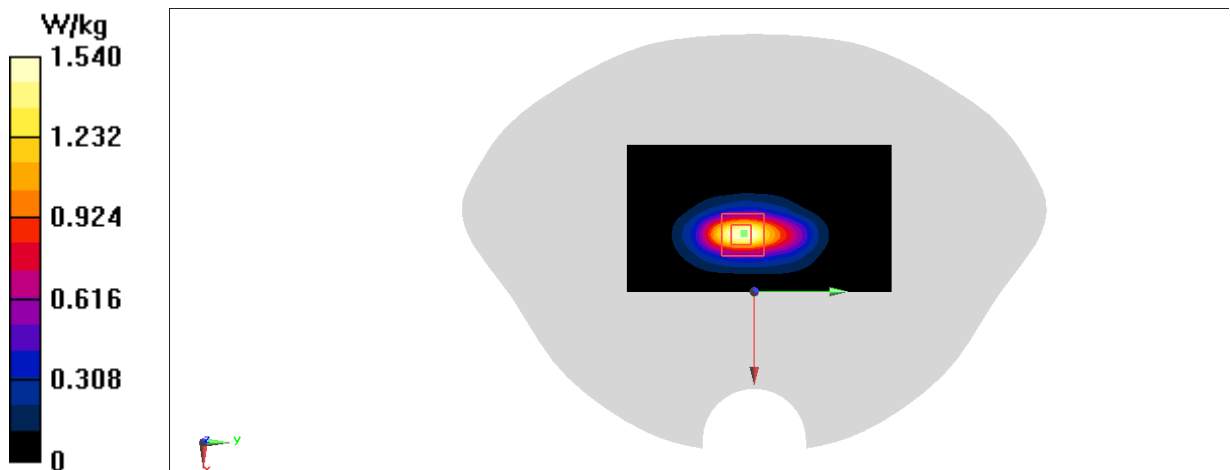
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 31.55 V/m; Power Drift = 0.12 dB

Peak SAR (extrapolated) = 1.88 W/kg

**SAR(1 g) = 1.01 W/kg; SAR(10 g) = 0.515 W/kg**

Maximum value of SAR (measured) = 1.47 W/kg



**LTE B66 Body 15mm**

Date: 12/28/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 1720$  MHz;  $\sigma = 1.339$  S/m;  $\epsilon_r = 40.847$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: LTE Band66 1720 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(8.13, 8.13, 8.13)

**Area Scan (81x141x1):** Interpolated grid: dx=1.500 mm, dy=1.500 mm

Maximum value of SAR (interpolated) = 1.77 W/kg

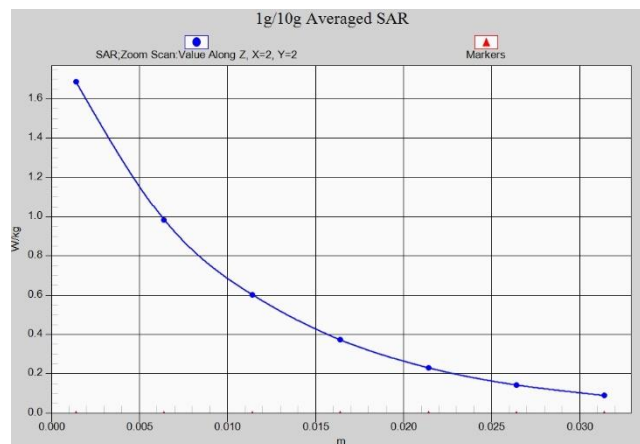
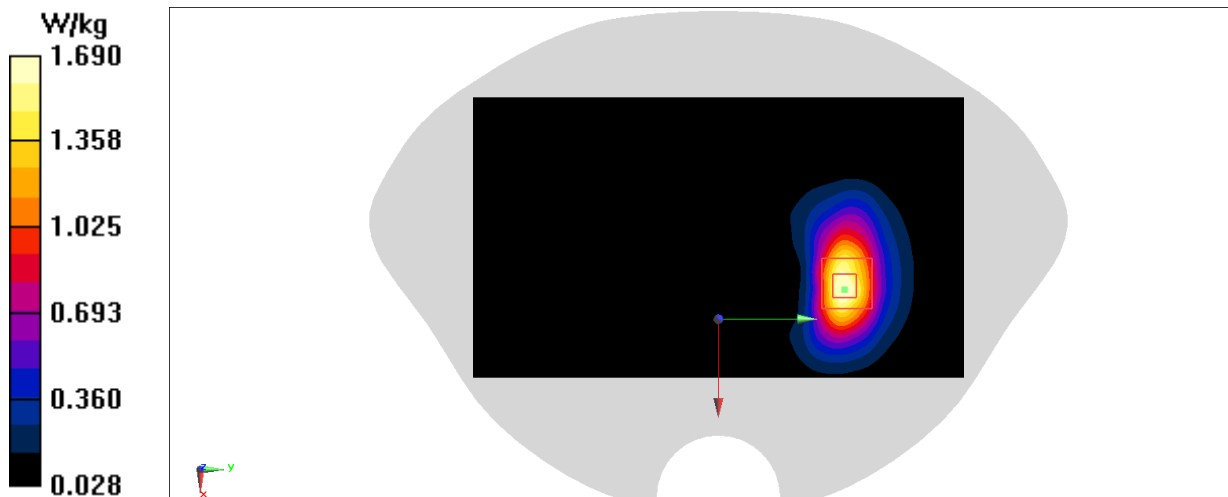
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm

Reference Value = 8.160 V/m; Power Drift = 0.06 dB

Peak SAR (extrapolated) = 2.00 W/kg

**SAR(1 g) = 1.15 W/kg; SAR(10 g) = 0.637 W/kg**

Maximum value of SAR (measured) = 1.69 W/kg





**LTE B71 Head**

Date: 12/23/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 683 \text{ MHz}$ ;  $\sigma = 0.845 \text{ S/m}$ ;  $\epsilon_r = 42.591$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.9^\circ\text{C}$       Liquid Temperature:  $22.5^\circ\text{C}$

Communication System: LTE Band71 (0) 683 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(10.3, 10.3, 10.3)

**Area Scan (81x141x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.277 \text{ W/kg}$

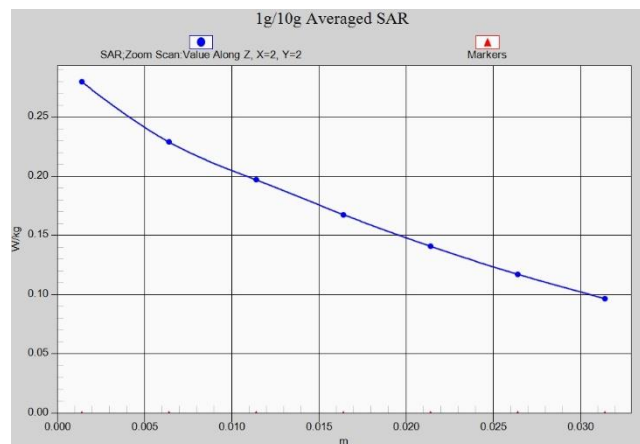
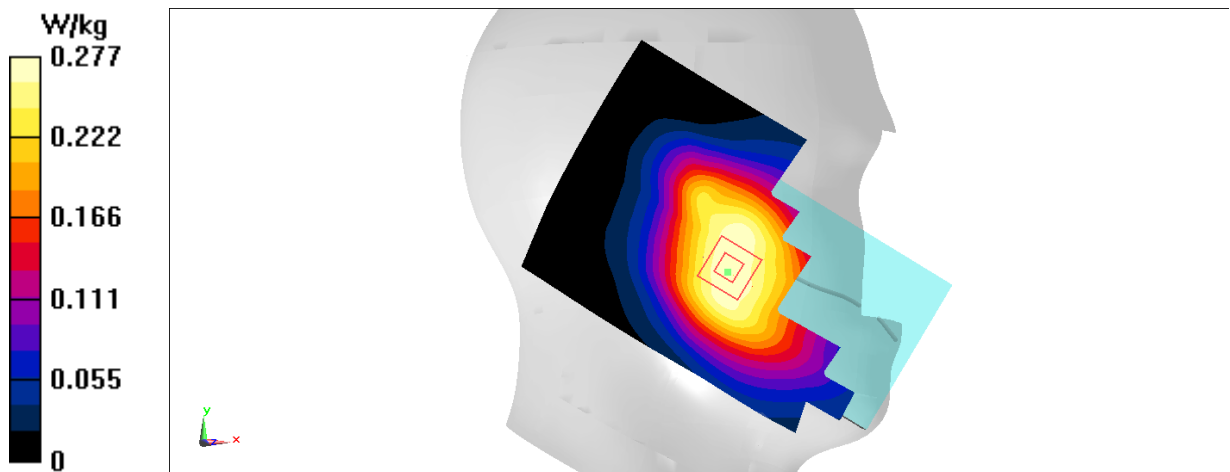
**Zoom Scan (5x5x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $5.339 \text{ V/m}$ ; Power Drift =  $-0.09 \text{ dB}$

Peak SAR (extrapolated) =  $0.301 \text{ W/kg}$

**SAR(1 g) =  $0.243 \text{ W/kg}$ ; SAR(10 g) =  $0.197 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.280 \text{ W/kg}$



**LTE B71 Body 10mm**

Date: 12/23/2022

Electronics: DAE4 Sn1331

Medium: H650-7000M

Medium parameters used:  $f = 683 \text{ MHz}$ ;  $\sigma = 0.845 \text{ S/m}$ ;  $\epsilon_r = 42.591$ ;  $\rho = 1000 \text{ kg/m}^3$

Ambient Temperature:  $22.9^\circ\text{C}$       Liquid Temperature:  $22.5^\circ\text{C}$

Communication System: LTE Band71 (0) 683 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(10.3, 10.3, 10.3)

**Area Scan (81x141x1):** Interpolated grid:  $dx=1.500 \text{ mm}$ ,  $dy=1.500 \text{ mm}$

Maximum value of SAR (interpolated) =  $0.537 \text{ W/kg}$

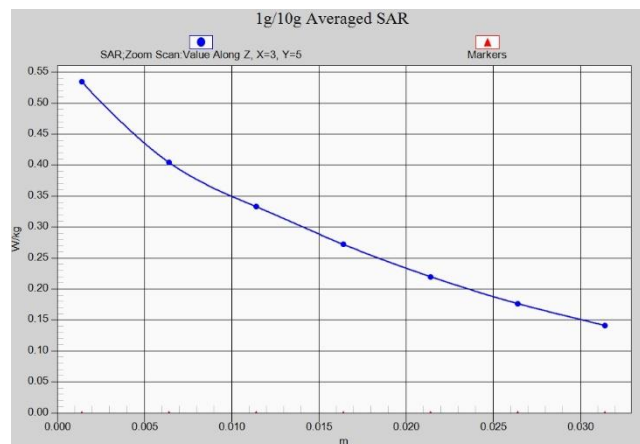
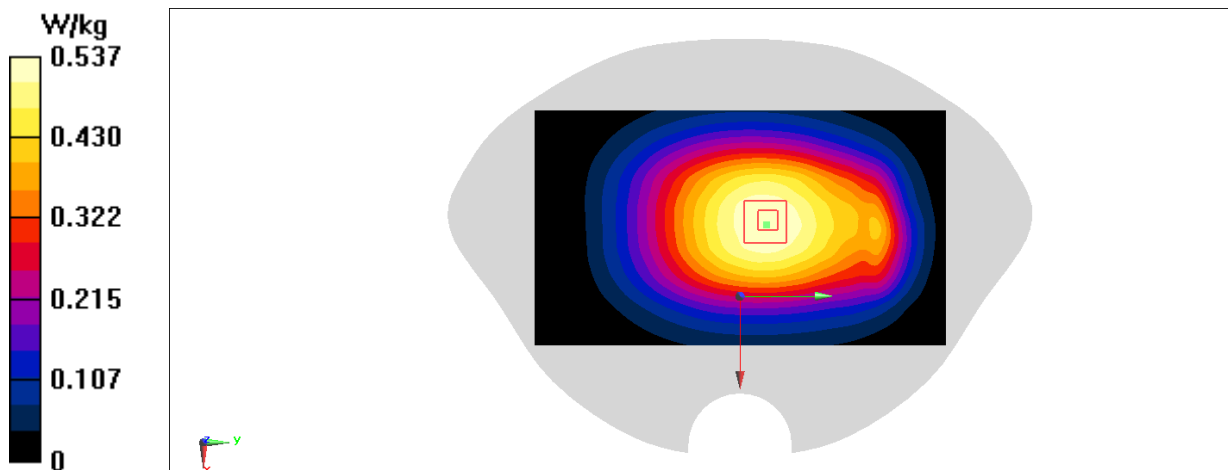
**Zoom Scan (6x8x7)/Cube 0:** Measurement grid:  $dx=8\text{mm}$ ,  $dy=8\text{mm}$ ,  $dz=5\text{mm}$

Reference Value =  $25.59 \text{ V/m}$ ; Power Drift =  $0.01 \text{ dB}$

Peak SAR (extrapolated) =  $0.590 \text{ W/kg}$

**SAR(1 g) =  $0.446 \text{ W/kg}$ ; SAR(10 g) =  $0.350 \text{ W/kg}$**

Maximum value of SAR (measured) =  $0.534 \text{ W/kg}$



**WLAN 2.4G Head**

Date: 1/4/2023

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used:  $f = 2437$  MHz;  $\sigma = 1.834$  S/m;  $\epsilon_r = 39.19$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: WIFI 2450    2437 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(7.32, 7.32, 7.32)

**Area Scan (101x171x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 1.83 W/kg

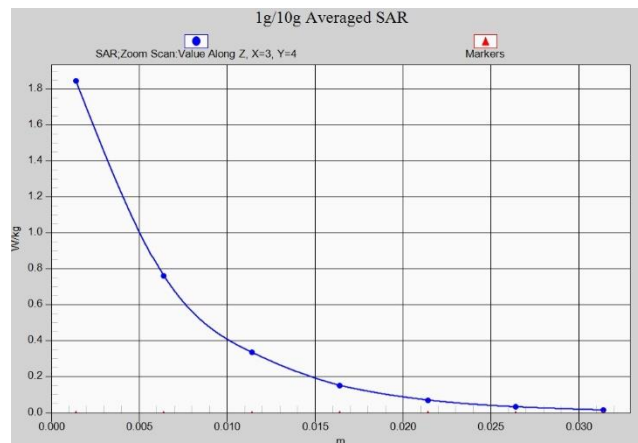
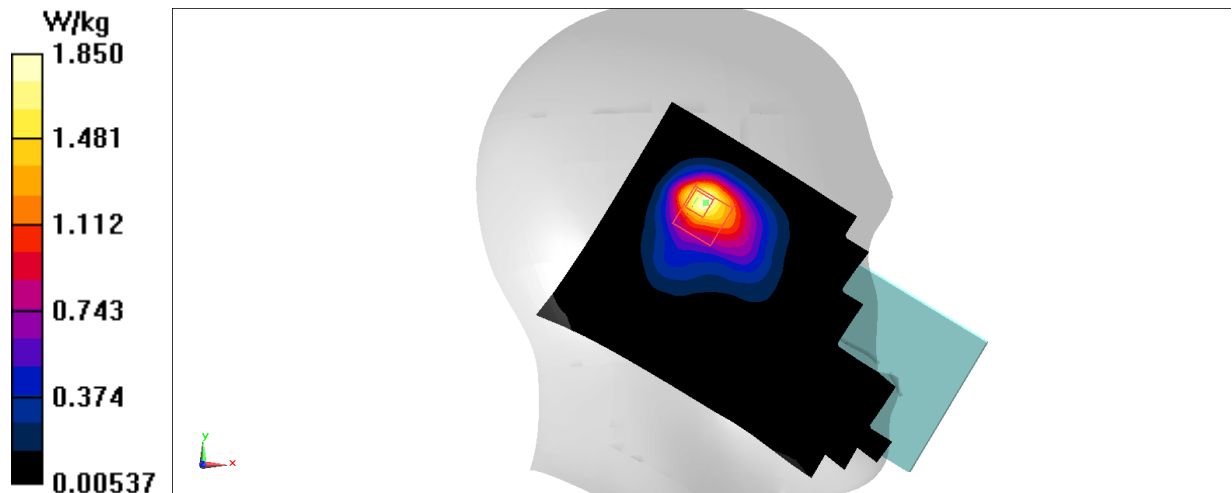
**Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 16.46 V/m; Power Drift = 0.2 dB

Peak SAR (extrapolated) = 2.48 W/kg

**SAR(1 g) = 1.05 W/kg; SAR(10 g) = 0.525 W/kg**

Maximum value of SAR (measured) = 1.85 W/kg



**WLAN 2.4G Body 10mm**

Date: 1/4/2023

Electronics: DAE4 Sn1331

Medium: H700-6000M

Medium parameters used:  $f = 2412$  MHz;  $\sigma = 1.81$  S/m;  $\epsilon_r = 39.257$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature: 22.9°C      Liquid Temperature: 22.5°C

Communication System: WIFI 2450 2412 MHz Duty Cycle: 1:1

Probe: EX3DV4 - SN7548 ConvF(7.32, 7.32, 7.32)

**Area Scan (101x171x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 0.539 W/kg

**Zoom Scan (7x8x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 8.968 V/m; Power Drift = 0.03 dB

Peak SAR (extrapolated) = 0.721 W/kg

**SAR(1 g) = 0.328 W/kg; SAR(10 g) = 0.164 W/kg**

Maximum value of SAR (measured) = 0.549 W/kg

