

# Variant FCC SAR Test Report

**Report No.** : SA180227C27F  
**Applicant** : Getac Technology Corporation.  
**Address** : 5F., Building A, No. 209, Sec.1, Nangang Rd., Nangang Dist., Taipei City 11568, Taiwan, R.O.C.  
**Product** : Tablet  
**FCC ID** : QYLEM7511K / QYL8265NGK  
**Brand** : Getac  
**Model No.** : K120  
**Standards** : FCC 47 CFR Part 2 (2.1093), IEEE C95.1:1992, IEEE Std 1528:2013  
 KDB 865664 D01 v01r04, KDB 865664 D02 v01r02, KDB 248227 D01 v02r02  
 KDB 447498 D01 v06, KDB 616217 D04 v01r02 , KDB 941225 D01 v03r01  
 KDB 941225 D05 v02r05, KDB 941225 D05A v01r02  
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**Test Location** : No. 19, Hwa Ya 2nd Rd, Wen Hwa Vil, Kwei Shan Dist., Taoyuan City 33383, Taiwan (R.O.C)

**CERTIFICATION:** The above equipment have been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch – Lin Kou Laboratories**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample’s SAR characteristics under the conditions specified in this report. It should not be reproduced except in full, without the written approval of our laboratory. The client should not use it to claim product certification, approval, or endorsement by TAF or any government agencies.

This report is issued as a supplementary report to BV CPS report no.: SA180227C27D. The difference compared with original report is adding CA band test, but EUT is same.

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FCC Accredited No.: TW0003

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### Release Control Record

| Report No.   | Reason for Change | Date Issued   |
|--------------|-------------------|---------------|
| SA180227C27F | Initial release   | Jun. 11, 2019 |
|              |                   |               |
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**1. Summary of Maximum SAR Value**

| Equipment Class | Mode   | Highest SAR-1g Body (W/kg) |                |
|-----------------|--------|----------------------------|----------------|
|                 |        | Laptop PC Mode             | Tablet PC Mode |
| PCB             | LTE 7  | N/A                        | <b>0.78</b>    |
|                 | LTE 41 | N/A                        | <b>0.49</b>    |

**Note:**

1. The SAR criteria (**Head & Body: SAR-1g 1.6 W/kg, and Extremity: SAR-10g 4.0 W/kg**) for general population / uncontrolled exposure is specified in FCC 47 CFR part 2 (2.1093) and ANSI/IEEE C95.1-1992.

## 2. Description of Equipment Under Test

|  |  |
|--|--|
| <b>EUT Type</b>                                    | Tablet   |
| <b>FCC ID</b>                                      | QYLEM7511K / QYL8265NGK  |
| <b>Brand Name</b>                                  | Getac  |
| <b>Model Name</b>                                  | K120   |
| <b>Tx Frequency Bands (Unit: MHz)</b>              | WCDMA Band II : 1852.4 ~ 1907.6<br>WCDMA Band IV : 1712.4 ~ 1752.6<br>WCDMA Band V : 826.4 ~ 846.6<br>LTE Band 2 : 1850.7 ~ 1909.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M)<br>LTE Band 4 : 1710.7 ~ 1754.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M)<br>LTE Band 5 : 824.7 ~ 848.3 (BW: 1.4M, 3M, 5M, 10M)<br>LTE Band 7 : 2502.5 ~ 2567.5 (BW: 5M, 10M, 15M, 20M)<br>LTE Band 12 : 699.7 ~ 715.3 (BW: 1.4M, 3M, 5M, 10M)<br>LTE Band 13 : 779.5 ~ 784.5 (BW: 5M, 10M)<br>LTE Band 14 : 790.5 ~ 795.5 (BW: 5M, 10M)<br>LTE Band 26 : 814.7 ~ 848.3 (BW: 1.4M, 3M, 5M, 10M, 15M)<br>LTE Band 41 : 2498.5 ~ 2687.5 (BW: 5M, 10M, 15M, 20M)<br>LTE Band 66 : 1710.7 ~ 1779.3 (BW: 1.4M, 3M, 5M, 10M, 15M, 20M)<br>WLAN : 2412 ~ 2462, 5180 ~ 5240, 5260 ~ 5320, 5500 ~ 5700, 5745 ~ 5825<br>Bluetooth : 2402 ~ 2480 |
| <b>Uplink Modulations</b>                          | WCDMA : QPSK<br>LTE : QPSK, 16QAM, 64QAM<br>802.11b : DSSS<br>802.11a/g/n/ac : OFDM<br>Bluetooth : GFSK, $\pi/4$ -DQPSK, 8-DPSK  |
| <b>Maximum Tune-up Conducted Power (Unit: dBm)</b> | Please refer to section 4.6.1 of this report   |
| <b>Antenna Type</b>                                | PIFA Antenna   |
| <b>EUT Stage</b>                                   | Identical Prototype  |

**Note:**

1. This report is issued as a supplementary report to BV CPS report no.: SA180227C27D. The difference compared with original report is adding LTE CA band test, and EUT is the same. The SAR testing above was verified based on the CA band of original report.
2. The above EUT information is declared by manufacturer and for more detailed features description please refers to the manufacturer's specifications or User's Manual.

**List of Accessory:**

|                       |                     |                  |
|-----------------------|---------------------|------------------|
| <b>Battery 1</b>      | <b>Brand Name</b>   | Getac            |
|                       | <b>Model Name</b>   | BP3S1P2100S-01   |
|                       | <b>Power Rating</b> | 11.1Vdc, 2100mAh |
|                       | <b>Type</b>         | Li-ion           |
| <b>BT/WLAN Module</b> | <b>Brand Name</b>   | Intel            |
|                       | <b>Model Name</b>   | 8265NGW          |
| <b>WWLAN Module</b>   | <b>Brand Name</b>   | Sierra           |
|                       | <b>Model Name</b>   | EM7511           |

### **3. SAR Measurement System**

#### **3.1 Definition of Specific Absorption Rate (SAR)**

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.

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:

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

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

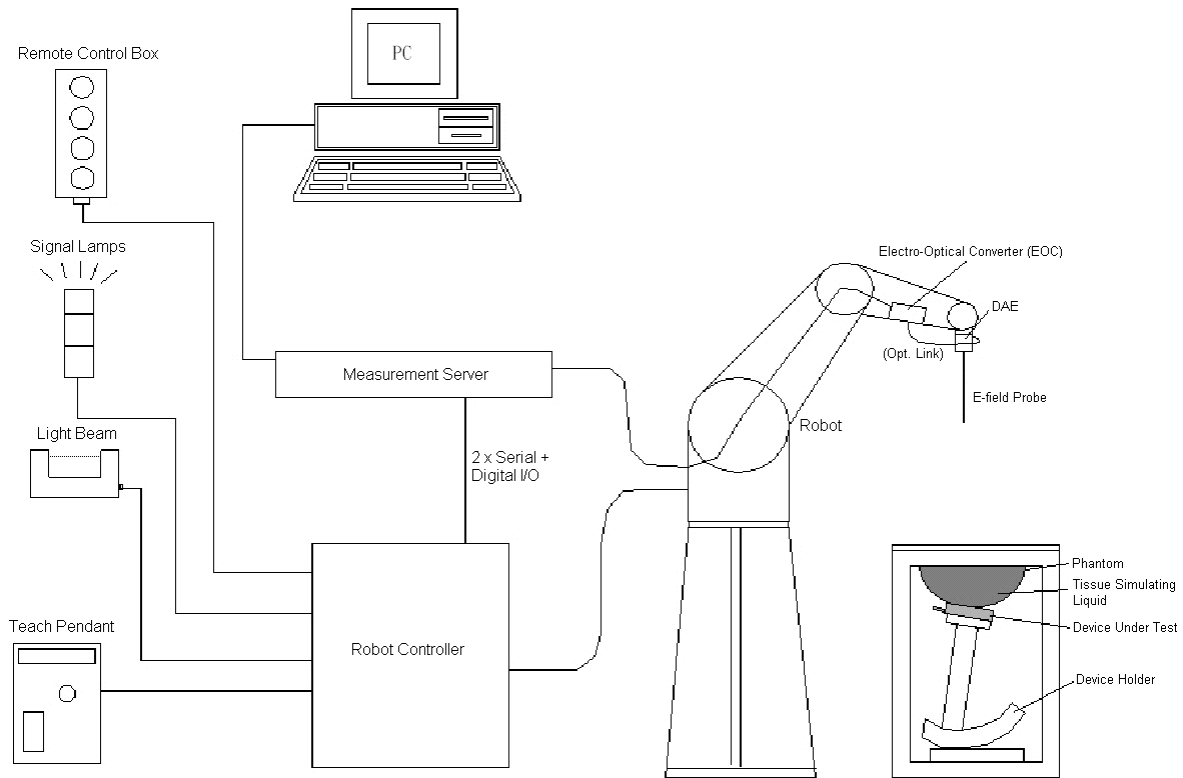
SAR measurement can be related to the electrical field in the tissue by

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

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

#### **3.2 SPEAG DASY52 System**

DASY52 system consists of high precision robot, probe alignment sensor, phantom, robot controller, controlled measurement server and near-field probe. The robot includes six axes that can move to the precision position of the DASY52 software defined. The DASY52 software can define the area that is detected by the probe. The robot is connected to controlled box. Controlled measurement server is connected to the controlled robot box. The DAE includes amplifier, signal multiplexing, AD converter, offset measurement and surface detection. It is connected to the Electro-optical coupler (ECO). The ECO performs the conversion from the optical into digital electric signal of the DAE and transfers data to the PC.



**Fig-3.1 SPEAG DASY52 System Setup**

**Robot**

The DASY52 systems use the high precision robots from Stäubli SA (France). For the 6-axis controller system, the robot controller version of CS8c from Stäubli is used. The Stäubli robot series have many features that are important for our application:

- High precision (repeatability  $\pm 0.035$  mm)
- High reliability (industrial design)
- Jerk-free straight movements
- Low ELF interference (the closed metallic construction shields against motor control fields)





**Fig-3.2 SPEAG DASY52 System**


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## Probes


The SAR measurement is conducted with the dosimetric probe. The probe is specially designed and calibrated for use in liquid with high permittivity. The dosimetric probe has special calibration in liquid at different frequency.

|                      |  |   |
|----------------------|--|---|
| <b>Model</b>         | EX3DV4   |  |
| <b>Construction</b>  | Symmetrical design with triangular core. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE). |   |
| <b>Frequency</b>     | 10 MHz to 6 GHz<br>Linearity: $\pm 0.2$ dB   |   |
| <b>Directivity</b>   | $\pm 0.3$ dB in HSL (rotation around probe axis)<br>$\pm 0.5$ dB in tissue material (rotation normal to probe axis)                                      |   |
| <b>Dynamic Range</b> | 10 $\mu$ W/g to 100 mW/g<br>Linearity: $\pm 0.2$ dB (noise: typically $< 1$ $\mu$ W/g)   |   |
| <b>Dimensions</b>    | Overall length: 337 mm (Tip: 20 mm)<br>Tip diameter: 2.5 mm (Body: 12 mm)<br>Typical distance from probe tip to dipole centers: 1 mm                     |   |

|                      |   |  |
|----------------------|---|--|
| <b>Model</b>         | ES3DV3  |  |
| <b>Construction</b>  | Symmetrical design with triangular core. Interleaved sensors. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE). |  |
| <b>Frequency</b>     | 10 MHz to 4 GHz<br>Linearity: $\pm 0.2$ dB  |  |
| <b>Directivity</b>   | $\pm 0.2$ dB in HSL (rotation around probe axis)<br>$\pm 0.3$ dB in tissue material (rotation normal to probe axis)   |  |
| <b>Dynamic Range</b> | 5 $\mu$ W/g to 100 mW/g<br>Linearity: $\pm 0.2$ dB  |  |
| <b>Dimensions</b>    | Overall length: 337 mm (Tip: 20 mm)<br>Tip diameter: 3.9 mm (Body: 12 mm)<br>Distance from probe tip to dipole centers: 2.0 mm  |  |

|                      |   |   |
|----------------------|---|---|
| <b>Model</b>         | ET3DV6  |  |
| <b>Construction</b>  | Symmetrical design with triangular core Built-in optical fiber for surface detection system. Built-in shielding against static charges. PEEK enclosure material (resistant to organic solvents, e.g., DGBE) |   |
| <b>Frequency</b>     | 10 MHz to 2.3 GHz; Linearity: $\pm 0.2$ dB  |   |
| <b>Directivity</b>   | $\pm 0.2$ dB in TSL (rotation around probe axis)<br>$\pm 0.4$ dB in TSL (rotation normal to probe axis)   |   |
| <b>Dynamic Range</b> | 5 $\mu$ W/g to 100 mW/g; Linearity: $\pm 0.2$ dB  |   |
| <b>Dimensions</b>    | Overall length: 337 mm (Tip: 16 mm)<br>Tip diameter: 6.8 mm (Body: 12 mm)<br>Distance from probe tip to dipole centers: 2.7 mm  |   |


## Data Acquisition Electronics (DAE)


|                             |   |   |
|-----------------------------|---|---|
| <b>Model</b>                | DAE3, DAE4  |  |
| <b>Construction</b>         | Signal amplifier, multiplexer, A/D converter and control logic. Serial optical link for communication with DASY embedded system (fully remote controlled). Two step probe touch detector for mechanical surface detection and emergency robot stop. |   |
| <b>Measurement Range</b>    | -100 to +300 mV (16 bit resolution and two range settings: 4mV, 400mV)  |   |
| <b>Input Offset Voltage</b> | $< 5\mu$ V (with auto zero)   |   |
| <b>Input Bias Current</b>   | $< 50$ fA   |   |
| <b>Dimensions</b>           | 60 x 60 x 68 mm   |   |



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## Phantoms


|                        |   |   |
|------------------------|---|---|
| <b>Model</b>           | Twin SAM  |  |
| <b>Construction</b>    | The shell corresponds to the specifications of the Specific Anthropomorphic Mannequin (SAM) phantom defined in IEEE 1528 and IEC 62209-1. It enables the dosimetric evaluation of left and right hand phone usage as well as body mounted usage at the flat phantom region. A cover prevents evaporation of the liquid. Reference markings on the phantom allow the complete setup of all predefined phantom positions and measurement grids by teaching three points with the robot. |   |
| <b>Material</b>        | Vinylester, glass fiber reinforced (VE-GF)  |   |
| <b>Shell Thickness</b> | $2 \pm 0.2$ mm ( $6 \pm 0.2$ mm at ear point)   |   |
| <b>Dimensions</b>      | Length: 1000 mm<br>Width: 500 mm<br>Height: adjustable feet   |   |
| <b>Filling Volume</b>  | approx. 25 liters   |   |

|                        |   |  |
|------------------------|---|--|
| <b>Model</b>           | ELI   |  |
| <b>Construction</b>    | Phantom for compliance testing of handheld and body-mounted wireless devices in the frequency range of 30 MHz to 6 GHz. ELI is fully compatible with the IEC 62209-2 standard and all known tissue simulating liquids. ELI has been optimized regarding its performance and can be integrated into our standard phantom tables. A cover prevents evaporation of the liquid. Reference markings on the phantom allow installation of the complete setup, including all predefined phantom positions and measurement grids, by teaching three points. The phantom is compatible with all SPEAG dosimetric probes and dipoles. |  |
| <b>Material</b>        | Vinylester, glass fiber reinforced (VE-GF)  |  |
| <b>Shell Thickness</b> | $2.0 \pm 0.2$ mm (bottom plate)   |  |
| <b>Dimensions</b>      | Major axis: 600 mm<br>Minor axis: 400 mm  |  |
| <b>Filling Volume</b>  | approx. 30 liters   |  |


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### Device Holder

|                     |   |   |
|---------------------|---|---|
| <b>Model</b>        | Mounting Device   |  |
| <b>Construction</b> | In combination with the Twin SAM Phantom or ELI4, the Mounting Device enables the rotation of the mounted transmitter device in spherical coordinates. Rotation point is the ear opening point. Transmitter devices can be easily and accurately positioned according to IEC, IEEE, FCC or other specifications. The device holder can be locked for positioning at different phantom sections (left head, right head, flat). |   |
| <b>Material</b>     | POM   |   |

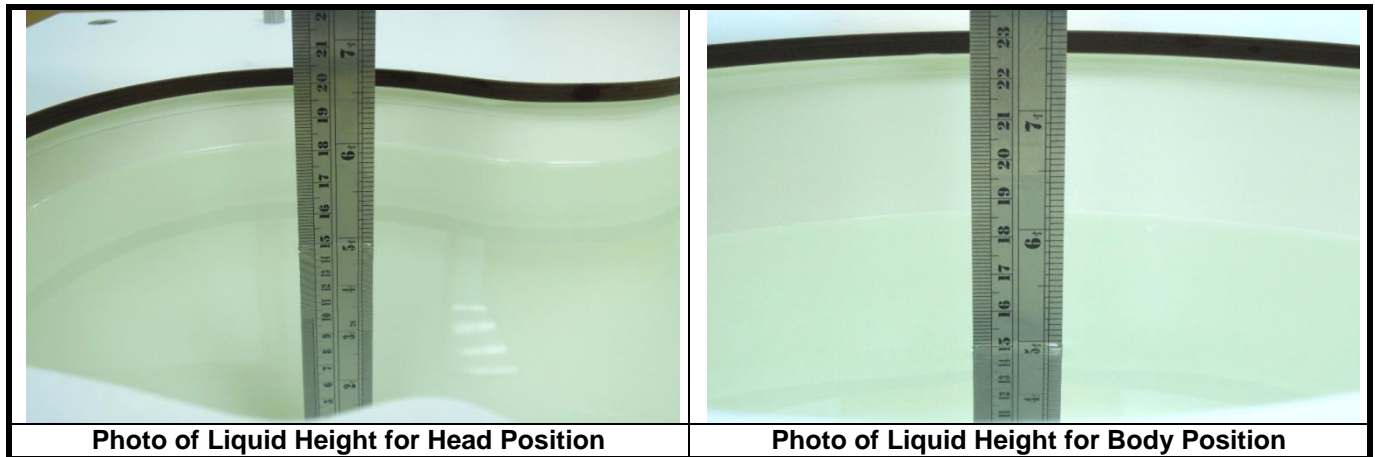
|                     |   |   |
|---------------------|---|---|
| <b>Model</b>        | Laptop Extensions Kit   |  |
| <b>Construction</b> | Simple but effective and easy-to-use extension for Mounting Device that facilitates the testing of larger devices according to IEC 62209-2 (e.g., laptops, cameras, etc.). It is lightweight and fits easily on the upper part of the Mounting Device in place of the phone positioner. |   |
| <b>Material</b>     | POM, Acrylic glass, Foam  |   |

### System Validation Dipoles

|                         |  |   |
|-------------------------|--|---|
| <b>Model</b>            | D-Serial   |  |
| <b>Construction</b>     | Symmetrical dipole with 1/4 balun. Enables measurement of feed point impedance with NWA. Matched for use near flat phantoms filled with tissue simulating solutions. |   |
| <b>Frequency</b>        | 750 MHz to 5800 MHz  |   |
| <b>Return Loss</b>      | > 20 dB  |   |
| <b>Power Capability</b> | > 100 W (f < 1GHz), > 40 W (f > 1GHz)  |   |

**Tissue Simulating Liquids**

For SAR measurement of the field distribution inside the phantom, the phantom must be filled with homogeneous tissue simulating liquid to a depth of at least 15 cm. For head SAR testing, the liquid height from the ear reference point (ERP) of the phantom to the liquid top surface is larger than 15 cm. For body SAR testing, the liquid height from the center of the flat phantom to the liquid top surface is larger than 15 cm. The nominal dielectric values of the tissue simulating liquids in the phantom and the tolerance of 5% are listed in Table-3.1.



The dielectric properties of the head tissue simulating liquids are defined in IEEE 1528, and KDB 865664 D01 Appendix A. For the body tissue simulating liquids, the dielectric properties are defined in KDB 865664 D01 Appendix A. The dielectric properties of the tissue simulating liquids were verified prior to the SAR evaluation using a dielectric assessment kit and a network analyzer.

**Table-3.1 Targets of Tissue Simulating Liquid**

| Frequency (MHz) | Target Permittivity | Range of $\pm 5\%$ | Target Conductivity | Range of $\pm 5\%$ |
|-----------------|---------------------|--------------------|---------------------|--------------------|
| <b>For Head</b> |                     |                    |                     |                    |
| 750             | 41.9                | 39.8 ~ 44.0        | 0.89                | 0.85 ~ 0.93        |
| 835             | 41.5                | 39.4 ~ 43.6        | 0.90                | 0.86 ~ 0.95        |
| 900             | 41.5                | 39.4 ~ 43.6        | 0.97                | 0.92 ~ 1.02        |
| 1450            | 40.5                | 38.5 ~ 42.5        | 1.20                | 1.14 ~ 1.26        |
| 1640            | 40.3                | 38.3 ~ 42.3        | 1.29                | 1.23 ~ 1.35        |
| 1750            | 40.1                | 38.1 ~ 42.1        | 1.37                | 1.30 ~ 1.44        |
| 1800            | 40.0                | 38.0 ~ 42.0        | 1.40                | 1.33 ~ 1.47        |
| 1900            | 40.0                | 38.0 ~ 42.0        | 1.40                | 1.33 ~ 1.47        |
| 2000            | 40.0                | 38.0 ~ 42.0        | 1.40                | 1.33 ~ 1.47        |
| 2300            | 39.5                | 37.5 ~ 41.5        | 1.67                | 1.59 ~ 1.75        |
| 2450            | 39.2                | 37.2 ~ 41.2        | 1.80                | 1.71 ~ 1.89        |
| 2600            | 39.0                | 37.1 ~ 41.0        | 1.96                | 1.86 ~ 2.06        |
| 3500            | 37.9                | 36.0 ~ 39.8        | 2.91                | 2.76 ~ 3.06        |
| 5200            | 36.0                | 34.2 ~ 37.8        | 4.66                | 4.43 ~ 4.89        |
| 5300            | 35.9                | 34.1 ~ 37.7        | 4.76                | 4.52 ~ 5.00        |
| 5500            | 35.6                | 33.8 ~ 37.4        | 4.96                | 4.71 ~ 5.21        |
| 5600            | 35.5                | 33.7 ~ 37.3        | 5.07                | 4.82 ~ 5.32        |
| 5800            | 35.3                | 33.5 ~ 37.1        | 5.27                | 5.01 ~ 5.53        |

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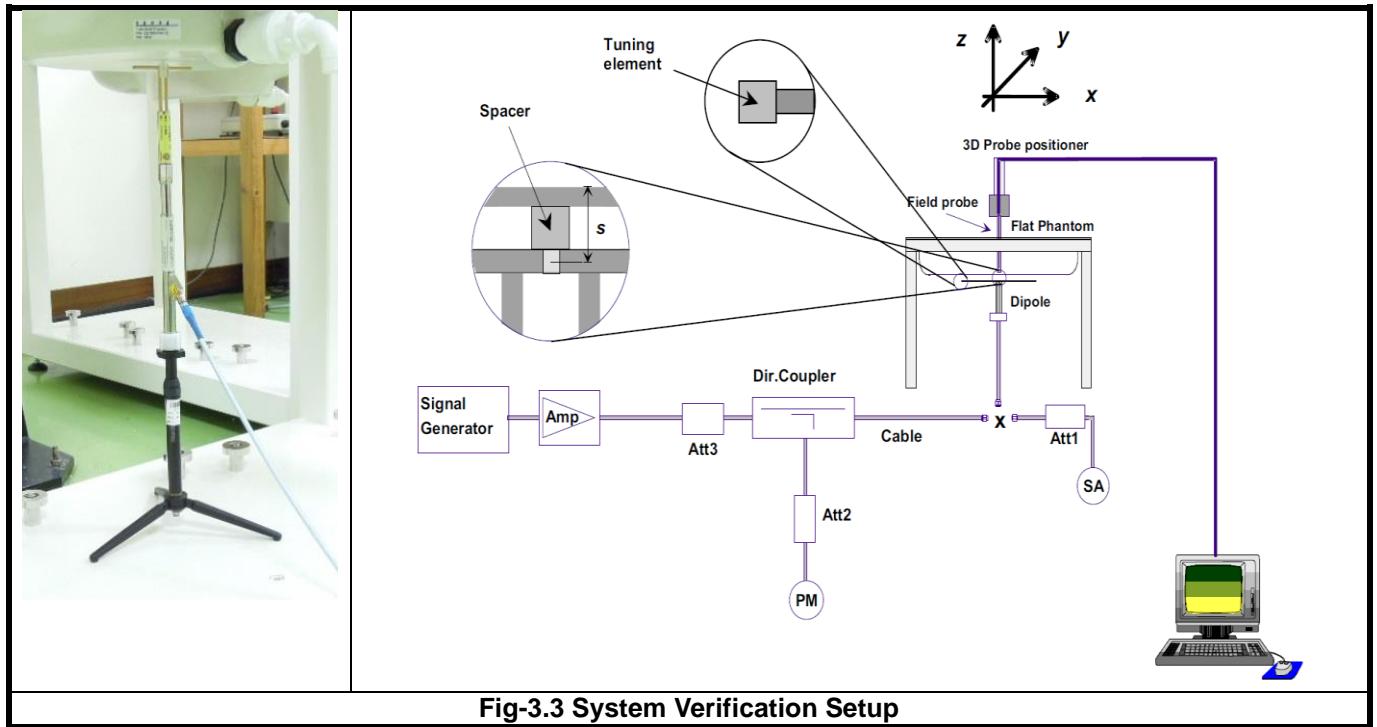
The following table gives the recipes for tissue simulating liquids.

**Table-3.2 Recipes of Tissue Simulating Liquid**

| Tissue Type | Bactericide | DGBE | HEC | NaCl | Sucrose | Triton X-100 | Water | Diethylene Glycol Mono-hexylether |
|-------------|-------------|------|-----|------|---------|--------------|-------|-----------------------------------|
| H750        | 0.2         | -    | 0.2 | 1.5  | 56.0    | -            | 42.1  | -                                 |
| H835        | 0.2         | -    | 0.2 | 1.5  | 57.0    | -            | 41.1  | -                                 |
| H900        | 0.2         | -    | 0.2 | 1.4  | 58.0    | -            | 40.2  | -                                 |
| H1450       | -           | 43.3 | -   | 0.6  | -       | -            | 56.1  | -                                 |
| H1640       | -           | 45.8 | -   | 0.5  | -       | -            | 53.7  | -                                 |
| H1750       | -           | 47.0 | -   | 0.4  | -       | -            | 52.6  | -                                 |
| H1800       | -           | 44.5 | -   | 0.3  | -       | -            | 55.2  | -                                 |
| H1900       | -           | 44.5 | -   | 0.2  | -       | -            | 55.3  | -                                 |
| H2000       | -           | 44.5 | -   | 0.1  | -       | -            | 55.4  | -                                 |
| H2300       | -           | 44.9 | -   | 0.1  | -       | -            | 55.0  | -                                 |
| H2450       | -           | 45.0 | -   | 0.1  | -       | -            | 54.9  | -                                 |
| H2600       | -           | 45.1 | -   | 0.1  | -       | -            | 54.8  | -                                 |
| H3500       | -           | 8.0  | -   | 0.2  | -       | 20.0         | 71.8  | -                                 |
| H5G         | -           | -    | -   | -    | -       | 17.2         | 65.5  | 17.3                              |
| B750        | 0.2         | -    | 0.2 | 0.8  | 48.8    | -            | 50.0  | -                                 |
| B835        | 0.2         | -    | 0.2 | 0.9  | 48.5    | -            | 50.2  | -                                 |
| B900        | 0.2         | -    | 0.2 | 0.9  | 48.2    | -            | 50.5  | -                                 |
| B1450       | -           | 34.0 | -   | 0.3  | -       | -            | 65.7  | -                                 |
| B1640       | -           | 32.5 | -   | 0.3  | -       | -            | 67.2  | -                                 |
| B1750       | -           | 31.0 | -   | 0.2  | -       | -            | 68.8  | -                                 |
| B1800       | -           | 29.5 | -   | 0.4  | -       | -            | 70.1  | -                                 |
| B1900       | -           | 29.5 | -   | 0.3  | -       | -            | 70.2  | -                                 |
| B2000       | -           | 30.0 | -   | 0.2  | -       | -            | 69.8  | -                                 |
| B2300       | -           | 31.0 | -   | 0.1  | -       | -            | 68.9  | -                                 |
| B2450       | -           | 31.4 | -   | 0.1  | -       | -            | 68.5  | -                                 |
| B2600       | -           | 31.8 | -   | 0.1  | -       | -            | 68.1  | -                                 |
| B3500       | -           | 28.8 | -   | 0.1  | -       | -            | 71.1  | -                                 |
| B5G         | -           | -    | -   | -    | -       | 10.7         | 78.6  | 10.7                              |

**3.3 SAR System Verification**

The system check verifies that the system operates within its specifications. It is performed daily or before every SAR measurement. The system check uses normal SAR measurements in the flat section of the phantom with a matched dipole at a specified distance. The system verification setup is shown as below.



**Fig-3.3 System Verification Setup**

The validation dipole is placed beneath the flat phantom with the specific spacer in place. The distance spacer is touch the phantom surface with a light pressure at the reference marking and be oriented parallel to the long side of the phantom. The spectrum analyzer measures the forward power at the location of the system check dipole connector. The signal generator is adjusted for the desired forward power (250 mW is used for 700 MHz to 3 GHz, 100 mW is used for 3.5 GHz to 6 GHz) at the dipole connector and the power meter is read at that level. After connecting the cable to the dipole, the signal generator is readjusted for the same reading at power meter.

After system check testing, the SAR result will be normalized to 1W forward input power and compared with the reference SAR value derived from validation dipole certificate report. The deviation of system check should be within 10 %.

**3.4 SAR Measurement Procedure**

According to the SAR test standard, the recommended procedure for assessing the peak spatial-average SAR value consists of the following steps:

- (a) Power reference measurement
- (b) Area scan
- (c) Zoom scan
- (d) Power drift measurement

The SAR measurement procedures for each of test conditions are as follows:

- (a) Make EUT to transmit maximum output power
- (b) Measure conducted output power through RF cable
- (c) Place the EUT in the specific position of phantom
- (d) Perform SAR testing steps on the DASYS system
- (e) Record the SAR value

**Area & Zoom Scan Procedure**

First Area Scan is used to locate the approximate location(s) of the local peak SAR value(s). The measurement grid within an Area Scan is defined by the grid extent, grid step size and grid offset. Next, in order to determine the EM field distribution in a three-dimensional spatial extension, Zoom Scan is required. The Zoom Scan is performed around the highest E-field value to determine the averaged SAR-distribution over 10 g. According to KDB 865664 D01, the resolution for Area and Zoom scan is specified in the table below.

| Items                              | <= 2 GHz | 2-3 GHz  | 3-4 GHz  | 4-5 GHz  | 5-6 GHz  |
|------------------------------------|----------|----------|----------|----------|----------|
| Area Scan ( $\Delta x, \Delta y$ ) | <= 15 mm | <= 12 mm | <= 12 mm | <= 10 mm | <= 10 mm |
| Zoom Scan ( $\Delta x, \Delta y$ ) | <= 8 mm  | <= 5 mm  | <= 5 mm  | <= 4 mm  | <= 4 mm  |
| Zoom Scan ( $\Delta z$ )           | <= 5 mm  | <= 5 mm  | <= 4 mm  | <= 3 mm  | <= 2 mm  |
| Zoom Scan Volume                   | >= 30 mm | >= 30 mm | >= 28 mm | >= 25 mm | >= 22 mm |

**Note:**

When zoom scan is required and report SAR is <= 1.4 W/kg, the zoom scan resolution of  $\Delta x / \Delta y$  (2-3GHz: <= 8 mm, 3-4GHz: <= 7 mm, 4-6GHz: <= 5 mm) may be applied.

**Volume Scan Procedure**

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

### Power Drift Monitoring

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

### Spatial Peak SAR Evaluation

The procedure for spatial peak SAR evaluation has been implemented according to the test standard. It can be conducted for 1g and 10g, as well as for user-specific masses. The DASY software includes all numerical procedures necessary to evaluate the spatial peak SAR value.

The base for the evaluation is a "cube" measurement. The measured volume must include the 1g and 10g cubes with the highest averaged SAR values. For that purpose, the center of the measured volume is aligned to the interpolated peak SAR value of a previously performed area scan.

The entire evaluation of the spatial peak values is performed within the post-processing engine (SEMCAD). The system always gives the maximum values for the 1g and 10g cubes. The algorithm to find the cube with highest averaged SAR is divided into the following stages:

- (a) Extraction of the measured data (grid and values) from the Zoom Scan
- (b) Calculation of the SAR value at every measurement point based on all stored data (A/D values and measurement parameters)
- (c) Generation of a high-resolution mesh within the measured volume
- (d) Interpolation of all measured values from the measurement grid to the high-resolution grid
- (e) Extrapolation of the entire 3-D field distribution to the phantom surface over the distance from sensor to surface
- (f) Calculation of the averaged SAR within masses of 1g and 10g

### SAR Averaged Methods

In DASY, the interpolation and extrapolation are both based on the modified Quadratic Shepard's method. The interpolation scheme combines a least-square fitted function method and a weighted average method which are the two basic types of computational interpolation and approximation.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation distance is determined by the surface detection distance and the probe sensor offset. The uncertainty increases with the extrapolation distance. To keep the uncertainty within 1% for the 1 g and 10 g cubes, the extrapolation distance should not be larger than 5 mm.

## 4. SAR Measurement Evaluation

### 4.1 EUT Configuration and Setting

#### <Considerations Related to Proximity Sensor>

The device supports WWAN, WLAN, and Bluetooth capabilities. It is designed with a proximity sensor which can trigger/not trigger power reduction for WCDMA and LTE on Top Side of EUT for SAR compliance. Others RF capability (WLAN and Bluetooth) have no power reduction. The power levels for all wireless technologies and the power reduction please refer to section 4.6 of this report.

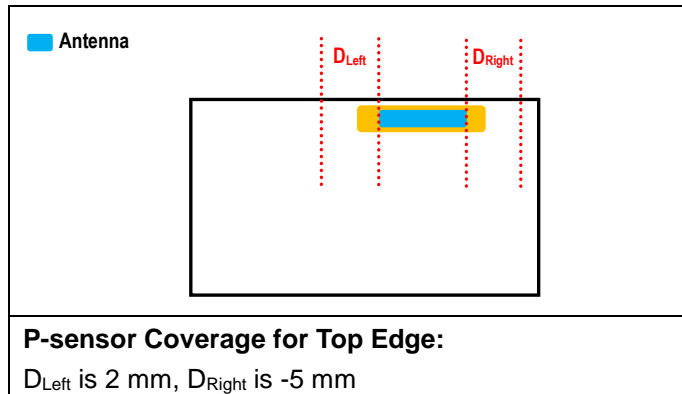
#### Proximity Sensor Triggering Distances (KDB 616217 D04 §6.2)

The proximity sensor triggering distance was determined per KDB 616217 for rear face and applicable edge. Summary for power verification per distance was tabulated in the below table.

| Output Power Verification in dBm for EUT Top Edge |      |      |      |      |      |      |      |      |      |      |      |
|---|------|------|------|------|------|------|------|------|------|------|------|
| Distance (mm)                                     | 10   | 11   | 12   | 13   | 14   | 15   | 16   | 17   | 18   | 19   | 20   |
| WCDMA II  | 19.6 | 19.9 | 19.7 | 19.6 | 19.9 | 19.5 | 22.4 | 22.2 | 22.2 | 22.1 | 22.1 |
| WCDMA IV  | 20.8 | 21.1 | 21.1 | 20.7 | 20.8 | 21.0 | 23.8 | 23.8 | 23.7 | 23.6 | 23.4 |
| LTE 2   | 19.5 | 19.5 | 19.5 | 19.2 | 19.7 | 19.7 | 22.4 | 22.2 | 22.1 | 22.3 | 22.3 |
| LTE 4   | 20.9 | 21.1 | 20.7 | 20.7 | 20.9 | 20.7 | 23.9 | 23.4 | 23.5 | 23.9 | 23.7 |
| LTE 7   | 20.4 | 20.4 | 20.3 | 20.5 | 20.8 | 20.3 | 22.4 | 22.4 | 22.2 | 22.3 | 22.7 |
| LTE 12  | 21.6 | 21.7 | 21.8 | 21.5 | 21.8 | 21.9 | 23.5 | 23.4 | 23.5 | 23.4 | 23.5 |
| LTE 66  | 21.0 | 21.0 | 20.7 | 21.1 | 21.2 | 20.9 | 23.8 | 23.9 | 23.6 | 23.7 | 23.6 |

#### Proximity Sensor Coverage (KDB 616217 D04 §6.3)

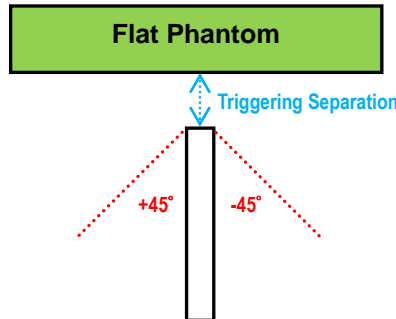
The proximity sensor coverage was determined per KDB 616217 for rear face and applicable edge. Summary for proximity sensor active region is illustrated in below.





**Proximity Sensor Tilt Angle Influences (KDB 616217 D04 §6.4)**

The proximity sensor tilt angle influence was determined per KDB 616217 for applicable edge. Summary for proximity sensor tilt angle influence is shown in below.



| Orientation | Separation Distance (mm) | Tilt Angle |      |      |      |      |    |     |     |     |     |     |
|-------------|--------------------------|------------|------|------|------|------|----|-----|-----|-----|-----|-----|
|             |                          | -45°       | -40° | -30° | -20° | -10° | 0° | 10° | 20° | 30° | 40° | 45° |
| Top Edge    | 10                       | On         | On   | On   | On   | On   | On | On  | On  | On  | On  | On  |

**Summary for Proximity Sensor Triggering Test**

According to the procedures noticed in KDB 616217 D04, the proximity sensor triggering distance is 15 mm for Top Side. The separation distance of 10 mm determined by the smallest triggering distance on Top Side is used to access the tilt angle influence and the sensor does not release during  $\pm 45$  degree. Therefore, the smallest separation distance for tilt angle influence is 10 mm for the Top Side. The conservation triggering distances based on the separation distance for the sensor trigger / not triggered as EUT with power reduction at 0 mm, and EUT without power reduction at 9 mm for Top Side were used to test SAR.

The power reduction is depends on the proximity sensor input. For a steady SAR test, the power reduction was enabled or disabled manually by engineering software during SAR testing.

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## <Connections between EUT and System Simulator>

For WWAN SAR testing, the EUT was linked and controlled by base station emulator. Communication between the EUT and the emulator was established by air link. The distance between the EUT and the communicating antenna of the emulator is larger than 50 cm and the output power radiated from the emulator antenna is at least 30 dB smaller than the output power of EUT. The EUT was set from the emulator to radiate maximum output power during SAR testing.

## <Considerations Related to LTE for Setup and Testing>

This device contains LTE transmitter which follows 3GPP standards, is category 3, supports both QPSK and QAM modulations, and supported LTE band and channel bandwidth is listed in below. The output power was tested per 3GPP TS 36.521-1 maximum transmit procedures for both QPSK and QAM modulation. The results please refer to section 4.6 of this report.

| EUT Supported LTE Band and Channel Bandwidth |            |          |          |           |           |           |
|--|------------|----------|----------|-----------|-----------|-----------|
| LTE Band                                     | BW 1.4 MHz | BW 3 MHz | BW 5 MHz | BW 10 MHz | BW 15 MHz | BW 20 MHz |
| 7  |            |          | V        | V         | V         | V         |
| 41   |            |          | V        | V         | V         | V         |

The LTE maximum power reduction (MPR) in accordance with 3GPP TS 36.101 is active all times during LTE operation. The allowed MPR for the maximum output power is specified in below.

| Modulation | Channel Bandwidth / RB Configurations |          |          |           |           |           | LTE MPR Setting (dB) |
|------------|---------------------------------------|----------|----------|-----------|-----------|-----------|----------------------|
|            | BW 1.4 MHz                            | BW 3 MHz | BW 5 MHz | BW 10 MHz | BW 15 MHz | BW 20 MHz |                      |
| QPSK       | > 5                                   | > 4      | > 8      | > 12      | > 16      | > 18      | 1                    |
| 16QAM      | <= 5                                  | <= 4     | <= 8     | <= 12     | <= 16     | <= 18     | 1                    |
| 16QAM      | > 5                                   | > 4      | > 8      | > 12      | > 16      | > 18      | 2                    |
| 64QAM      | <= 5                                  | <= 4     | <= 8     | <= 12     | <= 16     | <= 18     | 2                    |
| 64QAM      | > 5                                   | > 4      | > 8      | > 12      | > 16      | > 18      | 3                    |

**Note:** MPR is according to the standard and implemented in the circuit (mandatory).

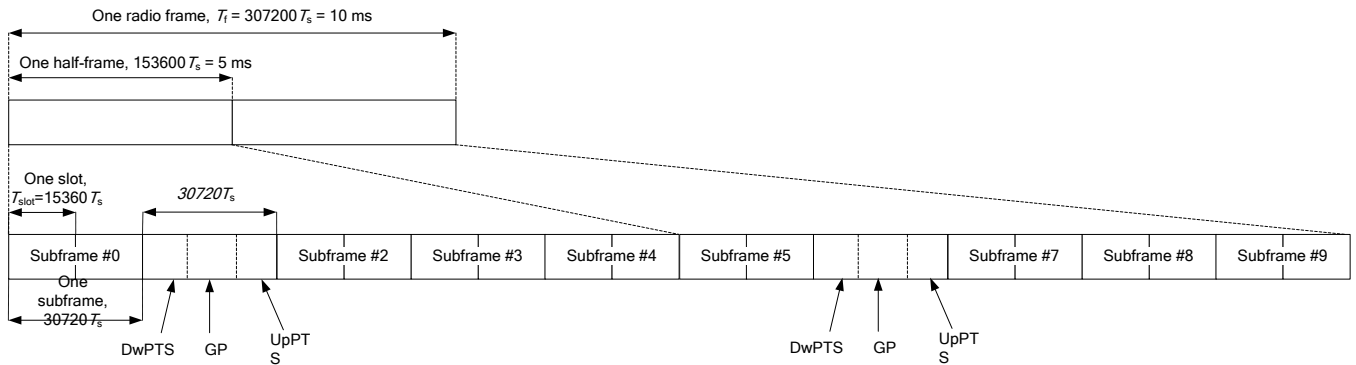
In addition, the device is compliant with additional maximum power reduction (A-MPR) requirements defined in 3GPP TS 36.101 section 6.2.4 that was disabled for all FCC compliance testing.

During LTE SAR testing, the related parameters of operating band, channel bandwidth, uplink channel number, modulation type, and RB was set in base station simulator. When the EUT has registered and communicated to base station simulator, the simulator set to make EUT transmitting the maximum radiated power.

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## TDD-LTE Setup Configurations

According to KDB 941225 D05, SAR testing for TDD-LTE device must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP TDD-LTE configurations. The TDD-LTE of this device supports frame structure type 2 defined in 3GPP TS 36.211 section 4.2, and the frame structure configuration can be referred to below.



3GPP TS 36.211 Figure 4.2-1: Frame Structure Type 2

| 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 · Ts                        | 2192 · Ts                      | 2560 · Ts                        | 7680 · Ts                          | 2192 · Ts                      | 2560 · Ts                        |
| 1                              | 19760 · Ts                       |                                |                                  | 20480 · Ts                         |                                |                                  |
| 2                              | 21952 · Ts                       |                                |                                  | 23040 · Ts                         |                                |                                  |
| 3                              | 24144 · Ts                       |                                |                                  | 25600 · Ts                         |                                |                                  |
| 4                              | 26336 · Ts                       |                                |                                  | 7680 · Ts                          |                                |                                  |
| 5                              | 6592 · Ts                        | 4384 · Ts                      | 5120 · Ts                        | 20480 · Ts                         | 4384 · Ts                      | 5120 · Ts                        |
| 6                              | 19760 · Ts                       |                                |                                  | 23040 · Ts                         |                                |                                  |
| 7                              | 21952 · Ts                       |                                |                                  | 12800 · Ts                         |                                |                                  |
| 8                              | 24144 · Ts                       | -                              | -                                | -                                  | -                              | -                                |
| 9                              | 13168 · Ts                       | -                              | -                                | -                                  | -                              | -                                |

3GPP TS 36.211 Table 4.2-1: Configuration of Special Subframe

| 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 |  |

3GPP TS 36.211 Table 4.2-2: Uplink-Downlink Configurations

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The variety of different TD-LTE uplink-downlink configurations allows a network operator to allocate the network's capacity between uplink and downlink traffic to meet the needs of the network. The uplink duty cycle of these seven configurations can readily be computed and shown in below.

| UL-DL Configuration | 0      | 1      | 2      | 3      | 4      | 5      | 6      |
|---------------------|--------|--------|--------|--------|--------|--------|--------|
| Highest Duty-Cycle  | 63.33% | 43.33% | 23.33% | 31.67% | 21.67% | 11.67% | 53.33% |

### LTE Downlink Carrier Aggregation (CA) Setup Configurations

LTE Carrier Aggregation (CA) was defined in 3GPP release 10 and higher. The LTE device in CA mode has one Primary Component Carrier (PCC) and one or more Secondary Component Carriers (SCC). PCC acts as the anchor carrier and can optionally cross-schedule data transmission on SCC. The RRC connection is only handled by one cell, the PCC for downlink and uplink communications. After making a data connection to the PCC, the LTE device adds the SCC on the downlink only. All uplink communications and acknowledgements remain identical to release 8 specifications on the PCC. The combinations of downlink carrier aggregation supported by this device are listed in below.

### LTE CA Configurations and Bandwidth Combination Sets defined for Intra-Band Contiguous CA

| Downlink CA Configuration | Component carriers in order of increasing carrier frequency |  |  | Maximum Aggregated Bandwidth (MHz) | Bandwidth Combination Set |
|---------------------------|---|--|--|------------------------------------|---------------------------|
|                           | Channel bandwidths for carrier-1 (MHz)                      | Channel bandwidths for carrier-2 (MHz) | Channel bandwidths for carrier-3 (MHz) |                                    |                           |
| CA_2C                     | 5   | 20                                     |  | 40                                 | 0                         |
|                           | 10  | 15, 20                                 |  |                                    |                           |
|                           | 15  | 10, 15, 20                             |  |                                    |                           |
|                           | 20  | 5, 10, 15, 20                          |  |                                    |                           |
| CA_7B                     | 15  | 5                                      |  | 20                                 | 0                         |
| CA_7C                     | 15  | 15                                     |  | 40                                 | 0                         |
|                           | 20  | 20                                     |  |                                    |                           |
|                           | 10  | 20                                     |  | 40                                 | 1                         |
|                           | 15  | 15, 20                                 |  |                                    |                           |
|                           | 20  | 10, 15, 20                             |  | 40                                 | 2                         |
|                           | 15  | 10, 15                                 |  |                                    |                           |
| CA_41D                    | 20  | 15, 20                                 |  | 60                                 | 0                         |
|                           | 10  | 20                                     | 15                                     |                                    |                           |
|                           | 10  | 15, 20                                 | 20                                     |                                    |                           |
|                           | 15  | 20                                     | 10, 15                                 |                                    |                           |
|                           | 15  | 10, 15, 20                             | 20                                     |                                    |                           |
|                           | 20  | 15, 20                                 | 10                                     |                                    |                           |
| CA_66B                    | 20  | 10, 15, 20                             | 15, 20                                 | 20                                 | 0                         |
|                           | 5   | 5, 10, 15                              |  |                                    |                           |
|                           | 10  | 5, 10                                  |  |                                    |                           |
| CA_66C                    | 15  | 5                                      |  | 40                                 | 0                         |
|                           | 5   | 20                                     |  |                                    |                           |
|                           | 10  | 15, 20                                 |  |                                    |                           |
|                           | 20  | 5, 10, 15, 20                          |  |                                    |                           |

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## LTE CA Configurations and Bandwidth Combination Sets defined for Intra-Band Non-Contiguous CA

| Downlink CA Configuration | Component Carriers in order of Increasing Carrier Frequency |  |  | Maximum Aggregated Bandwidth (MHz) | Bandwidth Combination Set |
|---------------------------|---|--|--|------------------------------------|---------------------------|
|                           | Channel Bandwidths for Carrier-1 (MHz)                      | Channel Bandwidths for Carrier-2 (MHz) | Channel Bandwidths for Carrier-3 (MHz) |                                    |                           |
| CA_2A-2A                  | 5, 10, 15, 20   | 5, 10, 15, 20                          |  | 40                                 | 0                         |
| CA_4A-4A                  | 5, 10, 15, 20   | 5, 10, 15, 20                          |  | 40                                 | 0                         |
|                           | 5, 10   | 5, 10                                  |  | 20                                 | 1                         |
| CA_66A-66B                | 5, 10, 15, 20   | Refer to CA_66B (BCS0)                 |  | 40                                 | 0                         |
|                           | Refer to CA_66B (BCS0)                                      |  | 5, 10, 15, 20                          |                                    |                           |
| CA_66A-66C                | 5, 10, 15, 20   | Refer to CA_66C (BCS0)                 |  | 60                                 | 0                         |
|                           | Refer to CA_66C (BCS0)                                      |  | 5, 10, 15, 20                          |                                    |                           |

## LTE CA Configurations and Bandwidth Combination Sets defined for Inter-Band CA (Two Bands)

| Downlink CA Configuration | LTE Bands     | Channel Bandwidths for Carrier (MHz) | Maximum Aggregated Bandwidth (MHz) | Bandwidth Combination Set |
|---------------------------|---------------|--------------------------------------|------------------------------------|---------------------------|
| CA_2A-4A                  | 2             | 1.4, 3, 5, 10, 15, 20                | 40                                 | 0                         |
|                           | 4             | 5, 10, 15, 20                        |                                    |                           |
|                           | 2             | 5, 10                                | 20                                 | 1                         |
|                           | 4             | 5, 10                                |                                    |                           |
|                           | 2             | 5, 10, 15, 20                        | 40                                 | 2                         |
| 4                         | 5, 10, 15, 20 |                                      |                                    |                           |
| CA_2A-2A-5A               | 2             | Refer to CA_2A-2A (BCS0)             | 50                                 | 0                         |
|                           | 5             | 5, 10                                |                                    |                           |
| CA_2A-7A                  | 2             | 5, 10, 15, 20                        | 40                                 | 0                         |
|                           | 7             | 5, 10, 15, 20                        |                                    |                           |
| CA_2A-7A-7A               | 2             | 5, 10, 15, 20                        | 60                                 | 0                         |
|                           | 7             | Refer to CA_7A-7A (BCS1)             |                                    |                           |
| CA_2A-12A                 | 2             | 5, 10, 15, 20                        | 30                                 | 0                         |
|                           | 12            | 5, 10                                |                                    |                           |
|                           | 2             | 5, 10, 15, 20                        | 30                                 | 1                         |
|                           | 12            | 3, 5, 10                             |                                    |                           |
|                           | 2             | 5, 10                                | 20                                 | 2                         |
| 12                        | 5, 10         |                                      |                                    |                           |
| CA_2A-2A-12A              | 2             | Refer to CA_2A-2A (BCS0)             | 50                                 | 0                         |
|                           | 12            | 5, 10                                |                                    |                           |
| CA_2A-13A                 | 2             | 5, 10, 15, 20                        | 30                                 | 0                         |
|                           | 13            | 10                                   |                                    |                           |
|                           | 2             | 5, 10                                | 20                                 | 1                         |
| 13                        | 10            |                                      |                                    |                           |
| CA_2A-2A-13A              | 2             | Refer to CA_2A-2A (BCS0)             | 50                                 | 0                         |
|                           | 13            | 10                                   |                                    |                           |
| CA_2A-29A                 | 2             | 5, 10                                | 20                                 | 0                         |
|                           | 29            | 3, 5, 10                             |                                    |                           |
|                           | 2             | 5, 10                                | 20                                 | 1                         |
|                           | 29            | 5, 10                                |                                    |                           |
|                           | 2             | 5, 10, 15, 20                        | 30                                 | 2                         |
| 29                        | 5, 10         |                                      |                                    |                           |
| CA_2A-46A                 | 2             | 5, 10, 15, 20                        | 40                                 | 0                         |
|                           | 46            | 20                                   |                                    |                           |

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| Downlink CA Configuration | LTE Bands                    | Channel Bandwidths for Carrier (MHz) | Maximum Aggregated Bandwidth (MHz) | Bandwidth Combination Set |
|---------------------------|------------------------------|--------------------------------------|------------------------------------|---------------------------|
| CA_2A-66A                 | 2                            | 1.4, 3, 5, 10, 15, 20                | 40                                 | 0                         |
|                           | 66                           | 5, 10, 15, 20                        |                                    |                           |
|                           | 2                            | 5, 10                                | 20                                 | 1                         |
|                           | 66                           | 5, 10                                |                                    |                           |
|                           | 2                            | 5, 10, 15, 20                        | 40                                 | 2                         |
| 66                        | 5, 10, 15, 20                |                                      |                                    |                           |
| CA_2A-66B                 | 2                            | 5, 10, 15, 20                        | 40                                 | 0                         |
| 66                        | Refer to CA_66B (BCS0)       |                                      |                                    |                           |
| CA_2A-66C                 | 2                            | 5, 10, 15, 20                        | 60                                 | 0                         |
| 66                        | Refer to CA_66C (BCS0)       |                                      |                                    |                           |
| CA_2A-66A-66A             | 2                            | 5, 10, 15, 20                        | 60                                 | 0                         |
|                           | 66                           | Refer to CA_66A-66A (BCS0)           |                                    |                           |
| CA_4A-5A                  | 4                            | 5, 10                                | 20                                 | 0                         |
|                           | 5                            | 5, 10                                |                                    |                           |
|                           | 4                            | 5, 10, 15, 20                        | 30                                 | 1                         |
|                           | 5                            | 5, 10                                |                                    |                           |
| CA_4A-4A-5A               | 4                            | Refer to CA_4A-4A (BCS0)             | 50                                 | 0                         |
| 5                         | 5, 10                        |                                      |                                    |                           |
| CA_4A-7A                  | 4                            | 5, 10                                | 30                                 | 0                         |
|                           | 7                            | 5, 10, 15, 20                        |                                    |                           |
|                           | 4                            | 5, 10, 15, 20                        | 40                                 | 1                         |
|                           | 7                            | 5, 10, 15, 20                        |                                    |                           |
| CA_4A-7A-7A               | 4                            | 5, 10, 15, 20                        | 60                                 | 0                         |
| 7                         | Refer to the CA_7A-7A (BCS1) |                                      |                                    |                           |
| CA_4A-12A                 | 4                            | 1.4, 3, 5, 10                        | 20                                 | 0                         |
|                           | 12                           | 5, 10                                |                                    |                           |
|                           | 4                            | 1.4, 3, 5, 10, 15, 20                | 30                                 | 1                         |
|                           | 12                           | 5, 10                                |                                    |                           |
|                           | 4                            | 5, 10, 15, 20                        | 30                                 | 2                         |
|                           | 12                           | 3, 5, 10                             |                                    |                           |
|                           | 4                            | 5, 10                                | 20                                 | 3                         |
|                           | 12                           | 5, 10                                |                                    |                           |
|                           | 4                            | 5, 10, 15, 20                        | 30                                 | 4                         |
|                           | 12                           | 5, 10                                |                                    |                           |
| 4                         | 5, 10, 15                    | 20                                   | 5                                  |                           |
| 12                        | 5                            |                                      |                                    |                           |
| CA_4A-4A-12A              | 4                            | Refer to CA_4A-4A (BCS0)             | 50                                 | 0                         |
| 12                        | 5, 10                        |                                      |                                    |                           |
| CA_4A-13A                 | 4                            | 5, 10, 15, 20                        | 30                                 | 0                         |
|                           | 13                           | 10                                   |                                    |                           |
|                           | 4                            | 5, 10                                | 20                                 | 1                         |
|                           | 13                           | 10                                   |                                    |                           |
| CA_4A-4A-13A              | 4                            | Refer to CA_4A-4A (BCS0)             | 50                                 | 0                         |
| 13                        | 10                           |                                      |                                    |                           |
| CA_4A-29A                 | 4                            | 5, 10                                | 20                                 | 0                         |
|                           | 29                           | 3, 5, 10                             |                                    |                           |
|                           | 4                            | 5, 10                                | 20                                 | 1                         |
|                           | 29                           | 5, 10                                |                                    |                           |
|                           | 4                            | 5, 10, 15, 20                        | 30                                 | 2                         |
| 29                        | 5, 10                        |                                      |                                    |                           |

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| Downlink CA Configuration | LTE Bands | Channel Bandwidths for Carrier (MHz) | Maximum Aggregated Bandwidth (MHz) | Bandwidth Combination Set |
|---------------------------|-----------|--------------------------------------|------------------------------------|---------------------------|
| CA_4A-46A                 | 4         | 5, 10, 15, 20                        | 40                                 | 0                         |
|                           | 46        | 20                                   |                                    |                           |
| CA_5A-66A                 | 5         | 5, 10                                | 30                                 | 0                         |
|                           | 66        | 5, 10, 15, 20                        |                                    |                           |
| CA_5A-66A-66A             | 5         | 5, 10                                | 50                                 | 0                         |
|                           | 66        | Refer to CA_66A-66A (BCS0)           |                                    |                           |
| CA_5A-66C                 | 5         | 5, 10                                | 50                                 | 0                         |
|                           | 66        | Refer to CA_66C (BCS0)               |                                    |                           |
| CA_7A-12A                 | 7         | 5, 10, 15, 20                        | 30                                 | 0                         |
|                           | 12        | 5, 10                                |                                    |                           |
| CA_12A-66A                | 12        | 5, 10                                | 20                                 | 0                         |
|                           | 66        | 1.4, 3, 5, 10                        |                                    |                           |
|                           | 12        | 5, 10                                | 30                                 | 1                         |
|                           | 66        | 1.4, 3, 5, 10, 15, 20                |                                    |                           |
|                           | 12        | 3, 5, 10                             | 30                                 | 2                         |
|                           | 66        | 5, 10, 15, 20                        |                                    |                           |
|                           | 12        | 5, 10                                | 20                                 | 3                         |
|                           | 66        | 5, 10                                |                                    |                           |
|                           | 12        | 5, 10                                | 30                                 | 4                         |
|                           | 66        | 5, 10, 15, 20                        |                                    |                           |
| 12                        | 5         | 20                                   | 5                                  |                           |
| 66                        | 5, 10, 15 |                                      |                                    |                           |
| CA_13A-66A                | 13        | 5, 10                                | 30                                 | 0                         |
|                           | 66        | 5, 10, 15, 20                        |                                    |                           |
| CA_13A-66A-66A            | 13        | 5, 10                                | 50                                 | 0                         |
|                           | 66        | Refer to CA_66A-66A (BCS0)           |                                    |                           |
| CA_13A-66B                | 13        | 5, 10                                | 30                                 | 0                         |
|                           | 66        | Refer to CA_66B (BCS0)               |                                    |                           |
| CA_29A-66A                | 29        | 5, 10                                | 30                                 | 0                         |
|                           | 66        | 5, 10, 15, 20                        |                                    |                           |

**LTE CA Configurations and Bandwidth Combination Sets defined for Inter-Band CA (Three Bands)**

| Downlink CA Configuration | LTE Bands | Channel Bandwidths for Carrier (MHz) | Maximum Aggregated Bandwidth (MHz) | Bandwidth Combination Set |
|---------------------------|-----------|--------------------------------------|------------------------------------|---------------------------|
| CA_2A-4A-5A               | 2         | 5, 10, 15,20                         | 50                                 | 0                         |
|                           | 4         | 5, 10, 15,20                         |                                    |                           |
|                           | 5         | 5, 10                                |                                    |                           |
| CA_2A-4A-7A               | 2         | 5, 10, 15,20                         | 60                                 | 0                         |
|                           | 4         | 5, 10, 15,20                         |                                    |                           |
|                           | 7         | 5, 10, 15,20                         |                                    |                           |
| CA_2A-4A-12A              | 2         | 5, 10, 15, 20                        | 50                                 | 0                         |
|                           | 4         | 5, 10, 15, 20                        |                                    |                           |
|                           | 12        | 5, 10                                |                                    |                           |
| CA_2A-4A-13A              | 2         | 5, 10, 15, 20                        | 50                                 | 0                         |
|                           | 4         | 5, 10, 15, 20                        |                                    |                           |
|                           | 13        | 10                                   |                                    |                           |
| CA_2A-4A-29A              | 2         | 5, 10, 15, 20                        | 50                                 | 0                         |
|                           | 4         | 5, 10, 15, 20                        |                                    |                           |
|                           | 29        | 5, 10                                |                                    |                           |
| CA_2A-13A-66A             | 2         | 5, 10, 15, 20                        | 50                                 | 0                         |
|                           | 13        | 5, 10                                |                                    |                           |
|                           | 66        | 5, 10, 15, 20                        |                                    |                           |
| CA_4A-7A-12A              | 4         | 5, 10                                | 40                                 | 0                         |
|                           | 7         | 5, 10, 15, 20                        |                                    |                           |
|                           | 12        | 5, 10                                |                                    |                           |
|                           | 4         | 5, 10, 15, 20                        | 50                                 | 1                         |
|                           | 7         | 5, 10, 15, 20                        |                                    |                           |
|                           | 12        | 5, 10                                |                                    |                           |
|                           | 66        | 5, 10, 15, 20                        |                                    |                           |



# FCC SAR Test Report

## <SAR Test Exclusion Evaluations for LTE Downlink CA>

According to Nov 2017 TCB Workshop, SAR test exclusion for LTE downlink Carrier Aggregation is determined by power measurements according to the number of component carriers (CCs) supported by the product implementation. The downlink Carrier Aggregation configurations are tabulated in separate columns. DL CA would be listed in the columns corresponding to Intra Band contiguous, Intra Band Non-contiguous, 2bands/2CCs, 2bands/3CCs, 3bands/3CCs. The CA/CC combinations in each columns are sorted so that frequency bands listed in subsequent columns on each row are ascending subsets, as following LTE Downlink CA table ; i.e., columns to the right correspond to increasing number of frequency bands and CCs.

|                              | Intra Band |                | Inter Band    |                |               |
|------------------------------|------------|----------------|---------------|----------------|---------------|
|                              | Contiguous | Non-Contiguous | 2 Bands / 2CC | 2 Bands / 3CC  | 3 Bands / 3CC |
| LTE Downlink<br>CA-Configure | CA_2C      | CA_2A-2A       | CA_2A-4A      | CA_2A-2A-5A    | CA_2A-4A-5A   |
|                              |            | CA_4A-4A       | CA_4A-5A      | CA_4A-4A-5A    |               |
|                              | CA_7B      |                | CA_2A-7A      | CA_2A-7A-7A    | CA_2A-4A-7A   |
|                              |            |                |               | CA_4A-7A-7A    |               |
|                              |            |                | CA_2A-12A     | CA_2A-2A-12A   | CA_2A-4A-12A  |
|                              |            |                | CA_4A-12A     | CA_4A-4A-12A   |               |
|                              |            |                | CA_2A-13A     | CA_2A-2A-13A   | CA_2A-4A-13A  |
|                              |            |                | CA_4A-13A     | CA_4A-4A-13A   |               |
|                              |            |                | CA_2A-29A     |                | CA_2A-4A-29A  |
|                              |            |                | CA_4A-29A     |                |               |
|                              |            |                | CA_2A-66A     | CA_2A-66B      | CA_2A-13A-66A |
|                              |            |                | CA_13A-66A    | CA_2A-66C      |               |
|                              |            |                |               | CA_13A-66B     |               |
|                              |            |                |               | CA_2A-66A-66A  |               |
|                              |            |                | CA_4A-7A      | CA_13A-66A-66A | CA_4A-7A-12A  |
|                              | CA_7C      |                | CA_7A-12A     |                |               |
|                              | CA_66B     | CA_66A-66B     | CA_5A-66A     | CA_5A-66C      |               |
|                              | CA_66C     | CA_66A-66C     |               | CA_5A-66A-66A  |               |
|                              |            |                | CA_2A-46A     |                |               |
|                              |            |                | CA_4A-46A     |                |               |
|                              |            | CA_12A-66A     |               |                |               |
|                              |            | CA_66A-29A     |               |                |               |
| CA_41D                       |            |                |               |                |               |

- Only yellow highlighted cells need power measurement.

**LTE Uplink Carrier Aggregation (CA) Setup Configurations**

This device supports LTE uplink CA for band 41 only with a maximum of two 20 MHz carrier components in the uplink. The maximum output power for uplink intra-band contiguous CA specified in Table 6.2.2A-1 of 3GPP TS 36.101 is the same as single carrier specified in Table 6.2.2-1 of 3GPP TS 36.101. In Table 6.2.3A-1 of 3GPP TS 36.101, the MPR (maximum power reduction) for several dB is allowed due to modulation and contiguously aggregated transmit bandwidth configuration. All the RF parameters in this device have followed above 3GPP criteria.

**LTE CA Configurations and Bandwidth Combination Sets defined for Intra-Band Contiguous CA**

| Uplink CA Configuration | Component carriers in order of increasing carrier frequency |  | Maximum Aggregated Bandwidth (MHz) | Bandwidth Combination Set |
|-------------------------|---|--|------------------------------------|---------------------------|
|                         | Channel bandwidths for carrier-1 (MHz)                      | Channel bandwidths for carrier-2 (MHz) |                                    |                           |
| CA_7C                   | 15  | 15                                     | 40                                 | 0                         |
|                         | 20  | 20                                     |                                    |                           |
|                         | 10  | 20                                     | 40                                 | 1                         |
|                         | 15  | 15, 20                                 |                                    |                           |
|                         | 20  | 10, 15, 20                             |                                    |                           |
|                         | 15  | 10, 15                                 |                                    |                           |
| 20                      | 15, 20  | 40                                     | 2                                  |                           |
| 10                      | 20  |  |                                    |                           |
| CA_41C                  | 15  | 15, 20                                 | 40                                 | 0                         |
|                         | 20  | 10, 15, 20                             |                                    |                           |
|                         | 5, 10   | 20                                     |                                    |                           |
|                         | 15  | 15, 20                                 | 40                                 | 1                         |
|                         | 20  | 5, 10, 15, 20                          |                                    |                           |
|                         | 10  | 15, 20                                 |                                    |                           |
|                         | 15  | 10, 15, 20                             |                                    |                           |
|                         | 20  | 10, 15, 20                             | 40                                 | 2                         |
|                         | 10  | 20                                     |                                    |                           |
|                         | 15  | 15, 20                                 |                                    |                           |
| 20                      | 20  |  |                                    |                           |
| 10                      | 20  | 40                                     | 3                                  |                           |
| 20                      | 20  |  |                                    |                           |

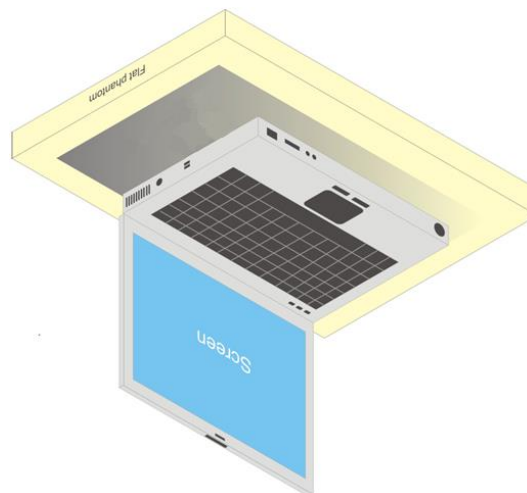
## 4.2 EUT Testing Position

This variant report is made for verification. The LTE Band 7 and LTE Band 41 for configurations of CA was verified to ensure the device remains compliant.

### 4.2.1 Body Exposure Conditions

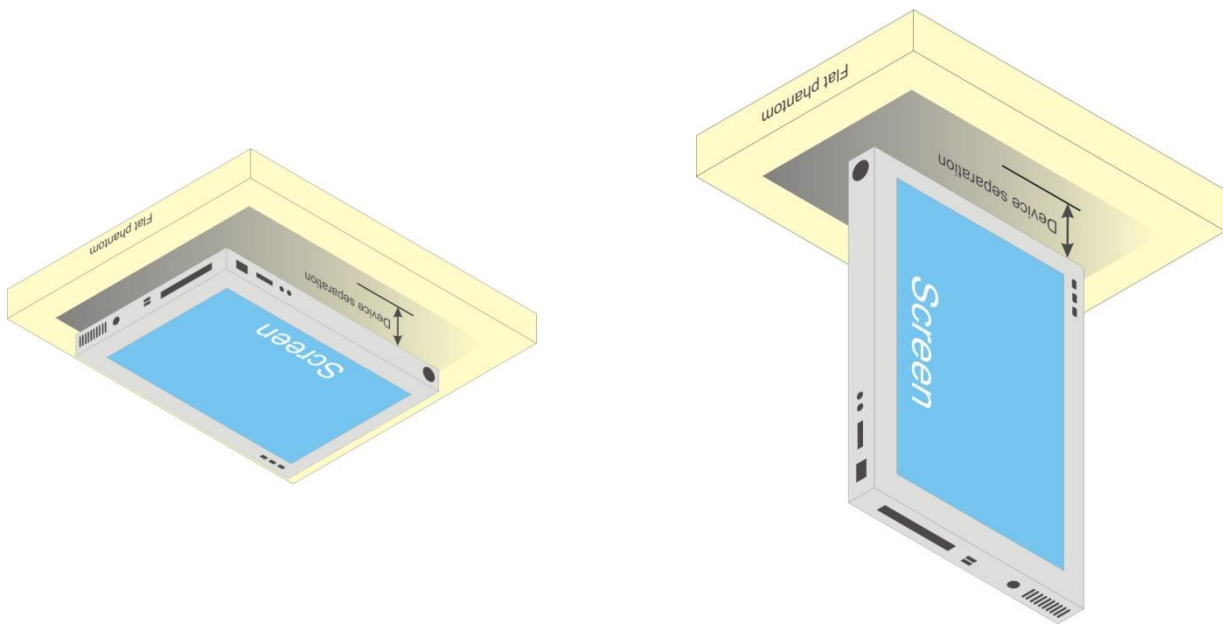
For laptop PC, according to KDB 616217 D04, SAR evaluation is required for the bottom surface of the keyboard. This EUT was tested in the base of EUT directly against the flat phantom. The required minimum test separation distance for incorporating transmitters and antennas into laptop computer display is determined with the display screen opened at an angle of 90° to the keyboard compartment.

For laptop PC, according to KDB 616217 D04, SAR evaluation is required for the bottom surface of the keyboard. This EUT was tested in the base of EUT directly against the flat phantom. The required minimum test separation distance for incorporating transmitters and antennas into laptop computer display is determined with the display screen opened at an angle of 90° to the keyboard compartment.



**Fig-4.1 Illustration for Laptop Setup**

For full-size tablet, according to KDB 616217 D04, SAR evaluation is required for back surface and edges of the devices. The back surface and edges of the tablet are tested with the tablet touching the phantom. Exposures from antennas through the front surface of the display section of a tablet are generally limited to the user's hands. Exposures to hands for typical consumer transmitters used in tablets are not expected to exceed the extremity SAR limit; therefore, SAR evaluation for the front surface of tablet display screens are generally not necessary. When voice mode is supported on a tablet and it is limited to speaker mode or headset operations only, additional SAR testing for this type of voice use is not required.



**Fig-4.2 Illustration for Tablet Setup**

**4.3 Tissue Verification**

The measuring results for tissue simulating liquid are shown as below.

| Test Date    | Frequency (MHz) | Liquid Temp. (°C) | Measured Conductivity ( $\sigma$ ) | Measured Permittivity ( $\epsilon_r$ ) | Target Conductivity ( $\sigma$ ) | Target Permittivity ( $\epsilon_r$ ) | Conductivity Deviation (%) | Permittivity Deviation (%) |
|--------------|-----------------|-------------------|------------------------------------|--|----------------------------------|--------------------------------------|----------------------------|----------------------------|
| May 25, 2019 | 2600            | 23.5              | 2.03                               | 37.41                                  | 1.96                             | 39                                   | 3.57                       | -4.08                      |

**Note:**

The dielectric properties of the tissue simulating liquid must be measured within 24 hours before the SAR testing and within  $\pm 5\%$  of the target values. Liquid temperature during the SAR testing must be within  $\pm 2$  °C.

**4.4 System Validation**

The SAR measurement system was validated according to procedures in KDB 865664 D01. The validation status in tabulated summary is as below.

| Test Date    | Probe S/N | Calibration Point | Measured Conductivity ( $\sigma$ ) | Measured Permittivity ( $\epsilon_r$ ) | Validation for CW |                 |                | Validation for Modulation |             |     |
|--------------|-----------|-------------------|------------------------------------|--|-------------------|-----------------|----------------|---------------------------|-------------|-----|
|              |           |                   |                                    |  | Sensitivity Range | Probe Linearity | Probe Isotropy | Modulation Type           | Duty Factor | PAR |
| May 25, 2019 | 3971      | 2600              | 2.03                               | 37.41                                  | Pass              | Pass            | Pass           | N/A                       | N/A         | N/A |

**4.5 System Verification**

The measuring result for system verification is tabulated as below.

| Test Date    | Mode | Frequency (MHz) | 1W Target SAR-1g (W/kg) | Measured SAR-1g (W/kg) | Normalized to 1W SAR-1g (W/kg) | Deviation (%) | Dipole S/N | Probe S/N | DAE S/N |
|--------------|------|-----------------|-------------------------|------------------------|--------------------------------|---------------|------------|-----------|---------|
| May 25, 2019 | Body | 2600            | 55.70                   | 13.5                   | 54.00                          | -3.05         | 1020       | 3971      | 1431    |

**Note:**

Comparing to the reference SAR value provided by SPEAG, the validation data should be within its specification of 10 %. The result indicates the system check can meet the variation criterion and the plots can be referred to Appendix A of this report.

**4.6 Maximum Output Power**

**4.6.1 Maximum Target Conducted Power**

The maximum conducted average power (Unit: dBm) including tune-up tolerance is shown as below.

| Mode          | WCDMA Band II<br>(without Power Reduction) | WCDMA Band II<br>(with Power Reduction) | Power Reduction<br>(dB) |
|---------------|--|---|-------------------------|
| RMC 12.2K     | 22.5                                       | 20.0                                    | 2.5                     |
| HSDPA / HSUPA | 22.5                                       | 19.5                                    | 3.0                     |

| Mode          | WCDMA Band IV<br>(without Power Reduction) | WCDMA Band IV<br>(with Power Reduction) | Power Reduction<br>(dB) |
|---------------|--|---|-------------------------|
| RMC 12.2K     | 24.0                                       | 21.5                                    | 2.5                     |
| HSDPA / HSUPA | 24.0                                       | 20.5                                    | 3.5                     |

| Mode          | WCDMA Band V |
|---------------|--------------|
| RMC 12.2K     | 24.0         |
| HSDPA / HSUPA | 24.0         |

| Mode                 | LTE 2<br>(without Power Reduction) | LTE 2<br>(with Power Reduction) | Power Reduction<br>(dB) |
|----------------------|------------------------------------|---------------------------------|-------------------------|
| Maximum Target Power | 22.5                               | 20.0                            | 2.5                     |

| Mode                 | LTE 4<br>(without Power Reduction) | LTE 4<br>(with Power Reduction) | Power Reduction<br>(dB) |
|----------------------|------------------------------------|---------------------------------|-------------------------|
| Maximum Target Power | 24.0                               | 21.5                            | 2.5                     |

| Mode                 | LTE 7<br>(without Power Reduction) | LTE 7<br>(with Power Reduction) | Power Reduction<br>(dB) |
|----------------------|------------------------------------|---------------------------------|-------------------------|
| Maximum Target Power | 23.0                               | 21.0                            | 2.0                     |

| Mode                 | LTE 12<br>(without Power Reduction) | LTE 12<br>(with Power Reduction) | Power Reduction<br>(dB) |
|----------------------|-------------------------------------|----------------------------------|-------------------------|
| Maximum Target Power | 24.0                                | 22.0                             | 2.0                     |

| Mode                 | LTE 5 | LTE 13 | LTE 14 | LTE 26 | LTE 41 |
|----------------------|-------|--------|--------|--------|--------|
| Maximum Target Power | 24.0  | 24.0   | 24.0   | 24.0   | 23.0   |

| Mode                 | LTE 66<br>(without Power Reduction) | LTE 66<br>(with Power Reduction) | Power Reduction<br>(dB) |
|----------------------|-------------------------------------|----------------------------------|-------------------------|
| Maximum Target Power | 24.0                                | 21.5                             | 2.5                     |

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## <WLAN 2.4G>

| Mode           | Channel | Frequency (MHz) | Ant-0 | Ant-1 | Ant-0 + Ant-1 |
|----------------|---------|-----------------|-------|-------|---------------|
| 802.11b        | 1       | 2412            | 18.0  | 15.0  | N/A           |
|                | 6       | 2437            | 18.0  | 15.0  | N/A           |
|                | 11      | 2462            | 18.0  | 15.0  | N/A           |
| 802.11g        | 1       | 2412            | 18.0  | 15.0  | N/A           |
|                | 6       | 2437            | 18.0  | 15.0  | N/A           |
|                | 11      | 2462            | 18.0  | 15.0  | N/A           |
| 802.11n (HT20) | 1       | 2412            | 17.5  | 14.5  | 18.5          |
|                | 6       | 2437            | 17.5  | 14.5  | 18.5          |
|                | 11      | 2462            | 17.5  | 14.5  | 18.5          |
| 802.11n (HT40) | 3       | 2422            | 17.5  | 14.5  | 18.0          |
|                | 6       | 2437            | 17.5  | 14.5  | 18.0          |
|                | 9       | 2452            | 17.5  | 14.5  | 18.0          |

## <WLAN 5.2G>

| Mode             | Channel | Frequency (MHz) | Ant-0 | Ant-1 | Ant-0 + Ant-1 |
|------------------|---------|-----------------|-------|-------|---------------|
| 802.11a          | 36      | 5180            | 19.0  | 13.5  | N/A           |
|                  | 40      | 5200            | 19.0  | 13.5  | N/A           |
|                  | 44      | 5220            | 19.0  | 13.5  | N/A           |
|                  | 48      | 5240            | 19.0  | 13.5  | N/A           |
| 802.11n (HT20)   | 36      | 5180            | 19.0  | 13.5  | 15.5          |
|                  | 40      | 5200            | 19.0  | 13.5  | 15.5          |
|                  | 44      | 5220            | 19.0  | 13.5  | 15.5          |
|                  | 48      | 5240            | 19.0  | 13.5  | 15.5          |
| 802.11n (HT40)   | 38      | 5190            | 19.0  | 13.5  | 15.5          |
|                  | 46      | 5230            | 19.0  | 13.5  | 15.5          |
| 802.11ac (VHT80) | 42      | 5210            | 18.5  | 13.0  | 15.0          |

## <WLAN 5.3G>

| Mode             | Channel | Frequency (MHz) | Ant-0 | Ant-1 | Ant-0 + Ant-1 |
|------------------|---------|-----------------|-------|-------|---------------|
| 802.11a          | 52      | 5260            | 19.0  | 13.5  | N/A           |
|                  | 56      | 5280            | 19.0  | 13.5  | N/A           |
|                  | 60      | 5300            | 19.0  | 13.5  | N/A           |
|                  | 64      | 5320            | 19.0  | 13.5  | N/A           |
| 802.11n (HT20)   | 52      | 5260            | 19.0  | 13.5  | 15.5          |
|                  | 56      | 5280            | 19.0  | 13.5  | 15.5          |
|                  | 60      | 5300            | 19.0  | 13.5  | 15.5          |
|                  | 64      | 5320            | 19.0  | 13.5  | 15.5          |
| 802.11n (HT40)   | 54      | 5270            | 19.0  | 13.5  | 15.5          |
|                  | 62      | 5310            | 19.0  | 13.5  | 15.5          |
| 802.11ac (VHT80) | 58      | 5290            | 18.5  | 13.0  | 15.0          |

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## <WLAN 5.6G>

| Mode             | Channel | Frequency (MHz) | Ant-0 | Ant-1 | Ant-0 + Ant-1 |
|------------------|---------|-----------------|-------|-------|---------------|
| 802.11a          | 100     | 5500            | 18.5  | 12.0  | N/A           |
|                  | 116     | 5580            | 18.5  | 12.0  | N/A           |
|                  | 120     | 5600            | 18.5  | 12.0  | N/A           |
|                  | 124     | 5620            | 18.5  | 12.0  | N/A           |
|                  | 132     | 5660            | 18.5  | 12.0  | N/A           |
|                  | 140     | 5700            | 18.5  | 12.0  | N/A           |
| 802.11n (HT20)   | 100     | 5500            | 18.5  | 12.0  | 15.5          |
|                  | 116     | 5580            | 18.5  | 12.0  | 15.5          |
|                  | 120     | 5600            | 18.5  | 12.0  | 15.5          |
|                  | 124     | 5620            | 18.5  | 12.0  | 15.5          |
|                  | 132     | 5660            | 18.5  | 12.0  | 15.5          |
|                  | 140     | 5700            | 18.5  | 12.0  | 15.5          |
| 802.11n (HT40)   | 102     | 5510            | 18.5  | 12.0  | 15.5          |
|                  | 110     | 5550            | 18.5  | 12.0  | 15.5          |
|                  | 118     | 5590            | 18.5  | 12.0  | 15.5          |
|                  | 126     | 5630            | 18.5  | 12.0  | 15.5          |
|                  | 134     | 5670            | 18.5  | 12.0  | 15.5          |
|                  | 142     | 5710            | 18.5  | 12.0  | 15.5          |
| 802.11ac (VHT80) | 106     | 5530            | 18.0  | 11.5  | 14.5          |
|                  | 122     | 5610            | 18.0  | 11.5  | 14.5          |
|                  | 138     | 5690            | 18.0  | 11.5  | 14.5          |

## <WLAN 5.8G>

| Mode             | Channel | Frequency (MHz) | Ant-0 | Ant-1 | Ant-0 + Ant-1 |
|------------------|---------|-----------------|-------|-------|---------------|
| 802.11a          | 149     | 5745            | 18.5  | 12.0  | N/A           |
|                  | 153     | 5765            | 18.5  | 12.0  | N/A           |
|                  | 157     | 5785            | 18.5  | 12.0  | N/A           |
|                  | 161     | 5805            | 18.5  | 12.0  | N/A           |
|                  | 165     | 5825            | 18.5  | 12.0  | N/A           |
| 802.11n (HT20)   | 149     | 5745            | 18.5  | 12.0  | 14.5          |
|                  | 153     | 5765            | 18.5  | 12.0  | 14.5          |
|                  | 157     | 5785            | 18.5  | 12.0  | 14.5          |
|                  | 161     | 5805            | 18.5  | 12.0  | 14.5          |
|                  | 165     | 5825            | 18.5  | 12.0  | 14.5          |
| 802.11n (HT40)   | 151     | 5755            | 18.5  | 12.0  | 14.5          |
|                  | 159     | 5795            | 18.5  | 12.0  | 14.5          |
| 802.11ac (VHT80) | 155     | 5775            | 18.0  | 11.5  | 14.0          |

## <Bluetooth>

| Mode          | Channel | Frequency (MHz) | Tune-up |
|---------------|---------|-----------------|---------|
| Bluetooth EDR | 0       | 2402            | 12.0    |
|               | 39      | 2441            | 12.0    |
|               | 78      | 2480            | 12.0    |
| Bluetooth LE  | 0       | 2402            | 5       |
|               | 19      | 2440            | 5       |
|               | 39      | 2480            | 5       |



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## 4.6.2 Measured Conducted Power Result

The measuring conducted average power (Unit: dBm) is shown as below.

| Band<br>Channel   | WCDMA Band II |        |        | WCDMA Band IV |              |        | 3GPP<br>MPR<br>(dB) |
|---|---------------|--------|--------|---------------|--------------|--------|---------------------|
|   | 9262          | 9400   | 9538   | 1312          | 1413         | 1513   |                     |
| Frequency (MHz)   | 1852.4        | 1880.0 | 1907.6 | 1712.4        | 1732.6       | 1752.6 |                     |
| <b>EUT without Power Reduction (P-Sensor NOT Triggered)</b> |               |        |        |               |              |        |                     |
| RMC 12.2K   | <b>22.42</b>  | 22.24  | 22.31  | 23.57         | <b>23.81</b> | 23.36  | -                   |
| HSDPA Subtest-1   | 21.50         | 21.32  | 21.32  | 22.65         | 22.75        | 22.40  | 0                   |
| HSDPA Subtest-2   | 21.43         | 21.25  | 21.32  | 22.57         | 22.72        | 22.44  | 0                   |
| HSDPA Subtest-3   | 21.06         | 20.88  | 20.95  | 22.06         | 22.27        | 21.92  | 0.5                 |
| HSDPA Subtest-4   | 21.09         | 20.91  | 20.98  | 22.04         | 22.19        | 21.93  | 0.5                 |
| HSUPA Subtest-1   | 21.79         | 21.60  | 21.79  | 22.55         | 22.84        | 22.47  | 0                   |
| HSUPA Subtest-2   | 19.89         | 19.69  | 19.81  | 20.61         | 20.67        | 20.38  | 2                   |
| HSUPA Subtest-3   | 20.81         | 20.67  | 20.79  | 21.59         | 21.73        | 21.50  | 1                   |
| HSUPA Subtest-4   | 19.84         | 19.71  | 19.81  | 20.64         | 20.70        | 20.39  | 2                   |
| HSUPA Subtest-5   | 21.69         | 21.61  | 21.66  | 22.40         | 22.60        | 22.30  | 0                   |
| <b>EUT with Power Reduction (P-Sensor Triggered)</b>        |               |        |        |               |              |        |                     |
| RMC 12.2K   | 19.96         | 19.80  | 19.95  | 21.19         | 21.20        | 21.10  | -                   |
| HSDPA Subtest-1   | 19.05         | 18.89  | 19.04  | 20.26         | 20.27        | 20.17  | -                   |
| HSDPA Subtest-2   | 19.20         | 19.04  | 19.19  | 20.24         | 20.25        | 20.15  | -                   |
| HSDPA Subtest-3   | 18.60         | 18.44  | 18.59  | 19.76         | 19.77        | 19.67  | -                   |
| HSDPA Subtest-4   | 18.53         | 18.37  | 18.52  | 19.72         | 19.73        | 19.63  | -                   |
| HSUPA Subtest-1   | 18.76         | 18.60  | 18.75  | 20.21         | 20.22        | 20.12  | -                   |
| HSUPA Subtest-2   | 16.85         | 16.69  | 16.84  | 18.19         | 18.20        | 18.10  | -                   |
| HSUPA Subtest-3   | 17.78         | 17.62  | 17.77  | 19.13         | 19.14        | 19.04  | -                   |
| HSUPA Subtest-4   | 16.86         | 16.70  | 16.85  | 18.26         | 18.27        | 18.17  | -                   |
| HSUPA Subtest-5   | 18.66         | 18.50  | 18.65  | 20.09         | 20.10        | 20.00  | -                   |

| Band<br>Channel | WCDMA Band V |              |       | 3GPP<br>MPR<br>(dB) |
|-----------------|--------------|--------------|-------|---------------------|
|                 | 4132         | 4182         | 4233  |                     |
| Frequency (MHz) | 826.4        | 836.4        | 846.6 |                     |
| RMC 12.2K       | 23.25        | <b>23.99</b> | 23.98 | -                   |
| HSDPA Subtest-1 | 23.23        | 23.43        | 23.15 | 0                   |
| HSDPA Subtest-2 | 23.19        | 23.34        | 23.22 | 0                   |
| HSDPA Subtest-3 | 22.73        | 22.91        | 22.63 | 0.5                 |
| HSDPA Subtest-4 | 22.71        | 22.89        | 22.61 | 0.5                 |
| HSUPA Subtest-1 | 23.16        | 23.26        | 23.13 | 0                   |
| HSUPA Subtest-2 | 21.21        | 21.28        | 21.04 | 2                   |
| HSUPA Subtest-3 | 22.25        | 22.25        | 22.15 | 1                   |
| HSUPA Subtest-4 | 21.32        | 21.41        | 21.17 | 2                   |
| HSUPA Subtest-5 | 23.10        | 23.10        | 23.00 | 0                   |

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| LTE Band 2   |   |           |           |                 |         |              |               |                 |               |         |           |         |                 |        |               |        |               |
|--|---|-----------|-----------|-----------------|---------|--------------|---------------|-----------------|---------------|---------|-----------|---------|-----------------|--------|---------------|--------|---------------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |   |           |           |                 |         |              |               |                 |               |         |           |         |                 |        |               |        |               |
| BW   | MCS Index                                     | RB Size   | RB Offset | Low             | Mid     | High         | 3GPP MPR (dB) | BW              | MCS Index     | RB Size | RB Offset | Low     | Mid             | High   | 3GPP MPR (dB) |        |               |
|  |   |           |           | Channel         | 18700   | 18900        |               |                 |               |         |           | 19100   | Channel         | 18675  |               | 18900  | 19125         |
|  |   |           |           | Frequency (MHz) | 1860.0  | 1880.0       |               |                 |               |         |           | 1900.0  | Frequency (MHz) | 1857.5 |               | 1880.0 | 1902.5        |
| 20M  | QPSK  | 1         | 0         | 22.46           | 22.24   | <b>22.48</b> | 0             | 15M             | QPSK          | 1       | 0         | 22.36   | 22.23           | 22.41  | 0             |        |               |
|  |   | 1         | 50        | 21.89           | 21.67   | 21.91        | 0             |                 |               | 1       | 37        | 21.89   | 21.62           | 21.83  | 0             |        |               |
|  |   | 1         | 99        | 21.88           | 21.66   | 21.90        | 0             |                 |               | 1       | 74        | 21.79   | 21.58           | 21.81  | 0             |        |               |
|  |   | 50        | 0         | 21.00           | 20.78   | 21.02        | 1             |                 |               | 36      | 0         | 20.91   | 20.77           | 20.99  | 1             |        |               |
|  |   | 50        | 25        | 20.95           | 20.73   | 20.97        | 1             |                 |               | 36      | 19        | 20.90   | 20.64           | 20.88  | 1             |        |               |
|  |   | 50        | 50        | 20.86           | 20.64   | 20.88        | 1             |                 |               | 36      | 39        | 20.85   | 20.59           | 20.80  | 1             |        |               |
|  | 100   | 0         | 20.95     | 20.73           | 20.97   | 1            | 75            |                 | 0             | 20.88   | 20.72     | 20.91   | 1               |        |               |        |               |
|  | 16QAM   | 1         | 0         | 21.63           | 21.41   | 21.65        | 1             |                 | 16QAM         | 1       | 0         | 21.57   | 21.38           | 21.61  | 1             |        |               |
|  |   | 1         | 50        | 21.19           | 20.97   | 21.21        | 1             |                 |               | 1       | 37        | 21.16   | 20.97           | 21.14  | 1             |        |               |
|  |   | 1         | 99        | 21.18           | 20.96   | 21.20        | 1             |                 |               | 1       | 74        | 21.15   | 20.96           | 21.12  | 1             |        |               |
|  |   | 50        | 0         | 20.04           | 19.82   | 20.06        | 2             |                 |               | 36      | 0         | 19.98   | 19.79           | 19.99  | 2             |        |               |
|  |   | 50        | 25        | 19.99           | 19.77   | 20.01        | 2             |                 |               | 36      | 19        | 19.93   | 19.71           | 19.91  | 2             |        |               |
|  |   | 50        | 50        | 19.87           | 19.65   | 19.89        | 2             |                 |               | 36      | 39        | 19.81   | 19.64           | 19.89  | 2             |        |               |
|  | 100   | 0         | 19.98     | 19.76           | 20.00   | 2            | 75            |                 | 0             | 19.93   | 19.66     | 19.93   | 2               |        |               |        |               |
|  | 64QAM   | 1         | 0         | 20.50           | 20.28   | 20.52        | 2             |                 | 64QAM         | 1       | 0         | 20.40   | 20.19           | 20.44  | 2             |        |               |
|  |   | 1         | 50        | 20.16           | 19.94   | 20.18        | 2             |                 |               | 1       | 37        | 20.15   | 19.88           | 20.08  | 2             |        |               |
|  |   | 1         | 99        | 20.08           | 19.86   | 20.10        | 2             |                 |               | 1       | 74        | 20.08   | 19.79           | 20.03  | 2             |        |               |
|  |   | 50        | 0         | 19.03           | 18.81   | 19.05        | 3             |                 |               | 36      | 0         | 18.99   | 18.74           | 18.95  | 3             |        |               |
|  |   | 50        | 25        | 18.99           | 18.77   | 19.01        | 3             |                 |               | 36      | 19        | 18.98   | 18.73           | 18.94  | 3             |        |               |
|  |   | 50        | 50        | 18.86           | 18.64   | 18.88        | 3             |                 |               | 36      | 39        | 18.86   | 18.54           | 18.79  | 3             |        |               |
|  | 100   | 0         | 18.97     | 18.75           | 18.99   | 3            | 75            |                 | 0             | 18.96   | 18.74     | 18.99   | 3               |        |               |        |               |
|  | EUT with Power Reduction (P-Sensor Triggered) |           |           |                 |         |              |               |                 |               |         |           |         |                 |        |               |        |               |
|  | BW  | MCS Index | RB Size   | RB Offset       | Low     | Mid          | High          |                 | 3GPP MPR (dB) | BW      | MCS Index | RB Size | RB Offset       | Low    | Mid           | High   | 3GPP MPR (dB) |
|  |   |           |           |                 | Channel | 18700        | 18900         |                 |               |         |           |         |                 | 19100  | Channel       | 18675  |               |
| Frequency (MHz)                                      |   |           |           |                 | 1860.0  | 1880.0       | 1900.0        | Frequency (MHz) |               |         |           |         |                 | 1857.5 | 1880.0        | 1902.5 |               |
| 20M  | QPSK  | 1         | 0         | 19.57           | 19.54   | <b>19.68</b> | -             | 15M             | QPSK          | 1       | 0         | 19.49   | 19.47           | 19.61  | -             |        |               |
|  |   | 1         | 50        | 19.25           | 19.22   | 19.36        | -             |                 |               | 1       | 37        | 19.17   | 19.18           | 19.36  | -             |        |               |
|  |   | 1         | 99        | 19.14           | 19.11   | 19.25        | -             |                 |               | 1       | 74        | 19.06   | 19.05           | 19.19  | -             |        |               |
|  |   | 50        | 0         | 19.53           | 19.50   | 19.64        | -             |                 |               | 36      | 0         | 19.53   | 19.47           | 19.55  | -             |        |               |
|  |   | 50        | 25        | 19.52           | 19.49   | 19.63        | -             |                 |               | 36      | 19        | 19.48   | 19.39           | 19.57  | -             |        |               |
|  |   | 50        | 50        | 19.51           | 19.48   | 19.62        | -             |                 |               | 36      | 39        | 19.49   | 19.42           | 19.54  | -             |        |               |
|  | 100   | 0         | 19.54     | 19.51           | 19.65   | -            | 75            |                 | 0             | 19.46   | 19.50     | 19.65   | -               |        |               |        |               |
|  | 16QAM   | 1         | 0         | 19.50           | 19.52   | 19.65        | -             |                 | 16QAM         | 1       | 0         | 19.44   | 19.47           | 19.51  | -             |        |               |
|  |   | 1         | 50        | 19.17           | 19.20   | 19.27        | -             |                 |               | 1       | 37        | 19.20   | 19.15           | 19.29  | -             |        |               |
|  |   | 1         | 99        | 19.05           | 19.02   | 19.15        | -             |                 |               | 1       | 74        | 19.05   | 19.00           | 19.15  | -             |        |               |
|  |   | 50        | 0         | 19.50           | 19.42   | 19.60        | -             |                 |               | 36      | 0         | 19.47   | 19.34           | 19.54  | -             |        |               |
|  |   | 50        | 25        | 19.45           | 19.49   | 19.54        | -             |                 |               | 36      | 19        | 19.45   | 19.41           | 19.57  | -             |        |               |
|  |   | 50        | 50        | 19.49           | 19.39   | 19.58        | -             |                 |               | 36      | 39        | 19.44   | 19.45           | 19.46  | -             |        |               |
|  | 100   | 0         | 19.46     | 19.51           | 19.63   | -            | 75            |                 | 0             | 19.43   | 19.35     | 19.58   | -               |        |               |        |               |
|  | 64QAM   | 1         | 0         | 19.53           | 19.52   | 19.63        | -             |                 | 64QAM         | 1       | 0         | 19.53   | 19.46           | 19.48  | -             |        |               |
|  |   | 1         | 50        | 19.20           | 19.22   | 19.35        | -             |                 |               | 1       | 37        | 19.15   | 19.07           | 19.19  | -             |        |               |
|  |   | 1         | 99        | 19.07           | 19.06   | 19.25        | -             |                 |               | 1       | 74        | 19.02   | 18.94           | 19.24  | -             |        |               |
|  |   | 50        | 0         | 19.45           | 19.45   | 19.61        | -             |                 |               | 36      | 0         | 19.42   | 19.47           | 19.62  | -             |        |               |
|  |   | 50        | 25        | 19.45           | 19.45   | 19.54        | -             |                 |               | 36      | 19        | 19.40   | 19.41           | 19.57  | -             |        |               |
|  |   | 50        | 50        | 19.44           | 19.46   | 19.53        | -             |                 |               | 36      | 39        | 19.43   | 19.44           | 19.55  | -             |        |               |
|  | 100   | 0         | 19.52     | 19.41           | 19.57   | -            | 75            |                 | 0             | 19.43   | 19.44     | 19.63   | -               |        |               |        |               |

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| LTE Band 2   |   |                 |           |         |        |        |               |       |                 |         |           |        |         |        |               |        |        |
|--|---|-----------------|-----------|---------|--------|--------|---------------|-------|-----------------|---------|-----------|--------|---------|--------|---------------|--------|--------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |   |                 |           |         |        |        |               |       |                 |         |           |        |         |        |               |        |        |
| BW   | MCS Index                                     | RB Size         | RB Offset | Low     | Mid    | High   | 3GPP MPR (dB) | BW    | MCS Index       | RB Size | RB Offset | Low    | Mid     | High   | 3GPP MPR (dB) |        |        |
|  |   |                 |           | 18650   | 18900  | 19150  |               |       |                 |         |           | 18625  | 18900   | 19175  |               |        |        |
|  |   |                 |           | Channel | 1855.0 | 1880.0 |               |       |                 |         |           | 1905.0 | Channel | 1852.5 |               | 1880.0 | 1907.5 |
|  |   | Frequency (MHz) |           |         |        |        |               |       | Frequency (MHz) |         |           |        |         |        |               |        |        |
| 10M  | QPSK  | 1               | 0         | 22.21   | 22.16  | 22.30  | 0             | 5M    | QPSK            | 1       | 0         | 22.26  | 22.07   | 22.37  | 0             |        |        |
|  |   | 1               | 24        | 21.75   | 21.57  | 21.77  | 0             |       |                 | 1       | 12        | 21.72  | 21.56   | 21.60  | 0             |        |        |
|  |   | 1               | 49        | 21.76   | 21.53  | 21.84  | 0             |       |                 | 1       | 24        | 21.71  | 21.58   | 21.67  | 0             |        |        |
|  |   | 25              | 0         | 20.90   | 20.72  | 20.93  | 1             |       |                 | 12      | 0         | 20.98  | 20.64   | 20.80  | 1             |        |        |
|  |   | 25              | 12        | 20.78   | 20.52  | 20.75  | 1             |       |                 | 12      | 6         | 20.74  | 20.51   | 20.75  | 1             |        |        |
|  |   | 25              | 25        | 20.85   | 20.53  | 20.65  | 1             |       |                 | 12      | 13        | 20.73  | 20.51   | 20.75  | 1             |        |        |
|  | 50  | 0               | 20.89     | 20.66   | 20.73  | 1      | 25            |       | 0               | 20.86   | 20.51     | 20.79  | 1       |        |               |        |        |
|  | 16QAM   | 1               | 0         | 21.46   | 21.26  | 21.47  | 1             |       | 16QAM           | 1       | 0         | 21.49  | 21.30   | 21.59  | 1             |        |        |
|  |   | 1               | 24        | 21.02   | 20.73  | 21.06  | 1             |       |                 | 1       | 12        | 21.02  | 20.86   | 21.10  | 1             |        |        |
|  |   | 1               | 49        | 21.02   | 20.77  | 21.07  | 1             |       |                 | 1       | 24        | 21.12  | 20.75   | 20.98  | 1             |        |        |
|  |   | 25              | 0         | 19.86   | 19.67  | 20.04  | 2             |       |                 | 12      | 0         | 19.95  | 19.74   | 19.93  | 2             |        |        |
|  |   | 25              | 12        | 19.83   | 19.66  | 19.87  | 2             |       |                 | 12      | 6         | 19.82  | 19.61   | 19.97  | 2             |        |        |
|  |   | 25              | 25        | 19.65   | 19.59  | 19.77  | 2             |       |                 | 12      | 13        | 19.72  | 19.47   | 19.68  | 2             |        |        |
|  | 50  | 0               | 19.93     | 19.70   | 19.95  | 2      | 25            |       | 0               | 19.94   | 19.60     | 19.89  | 2       |        |               |        |        |
|  | 64QAM   | 1               | 0         | 20.50   | 20.17  | 20.34  | 2             |       | 64QAM           | 1       | 0         | 20.26  | 20.19   | 20.43  | 2             |        |        |
|  |   | 1               | 24        | 20.07   | 19.78  | 20.18  | 2             |       |                 | 1       | 12        | 20.01  | 19.80   | 20.02  | 2             |        |        |
|  |   | 1               | 49        | 19.87   | 19.72  | 19.87  | 2             |       |                 | 1       | 24        | 19.97  | 19.76   | 19.92  | 2             |        |        |
|  |   | 25              | 0         | 18.87   | 18.66  | 18.96  | 3             |       |                 | 12      | 0         | 18.95  | 18.73   | 18.93  | 3             |        |        |
|  |   | 25              | 12        | 18.89   | 18.63  | 18.86  | 3             |       |                 | 12      | 6         | 18.91  | 18.67   | 18.93  | 3             |        |        |
|  |   | 25              | 25        | 18.71   | 18.61  | 18.66  | 3             |       |                 | 12      | 13        | 18.78  | 18.49   | 18.88  | 3             |        |        |
|  | 50  | 0               | 18.78     | 18.66   | 18.82  | 3      | 25            |       | 0               | 18.87   | 18.51     | 18.87  | 3       |        |               |        |        |
|  | EUT with Power Reduction (P-Sensor Triggered) |                 |           |         |        |        |               |       |                 |         |           |        |         |        |               |        |        |
|  | 10M   | QPSK            | 1         | 0       | 19.45  | 19.46  | 19.61         |       | -               | 5M      | QPSK      | 1      | 0       | 19.41  | 19.32         | 19.53  | -      |
|  |   |                 | 1         | 24      | 19.00  | 19.19  | 19.33         |       | -               |         |           | 1      | 12      | 19.04  | 19.02         | 19.27  | -      |
| 1  |   |                 | 49        | 19.01   | 18.92  | 19.12  | -             | 1     | 24              |         |           | 18.94  | 19.02   | 19.08  | -             |        |        |
| 25   |   |                 | 0         | 19.32   | 19.38  | 19.49  | -             | 12    | 0               |         |           | 19.48  | 19.43   | 19.43  | -             |        |        |
| 25   |   |                 | 12        | 19.48   | 19.37  | 19.55  | -             | 12    | 6               |         |           | 19.46  | 19.37   | 19.32  | -             |        |        |
| 25   |   |                 | 25        | 19.38   | 19.37  | 19.52  | -             | 12    | 13              |         |           | 19.41  | 19.37   | 19.46  | -             |        |        |
| 50   |   | 0               | 19.29     | 19.34   | 19.50  | -      | 25            | 0     | 19.32           |         | 19.43     | 19.40  | -       |        |               |        |        |
| 16QAM  |   | 1               | 0         | 19.34   | 19.45  | 19.59  | -             | 16QAM | 1               |         | 0         | 19.35  | 19.41   | 19.52  | -             |        |        |
|  |   | 1               | 24        | 19.06   | 19.11  | 19.11  | -             |       | 1               |         | 12        | 19.09  | 18.98   | 19.06  | -             |        |        |
|  |   | 1               | 49        | 18.90   | 19.02  | 18.93  | -             |       | 1               |         | 24        | 18.94  | 18.94   | 19.11  | -             |        |        |
|  |   | 25              | 0         | 19.41   | 19.33  | 19.46  | -             |       | 12              |         | 0         | 19.30  | 19.38   | 19.42  | -             |        |        |
|  |   | 25              | 12        | 19.38   | 19.34  | 19.43  | -             |       | 12              |         | 6         | 19.27  | 19.19   | 19.57  | -             |        |        |
|  |   | 25              | 25        | 19.32   | 19.25  | 19.34  | -             |       | 12              |         | 13        | 19.29  | 19.18   | 19.53  | -             |        |        |
| 50   |   | 0               | 19.43     | 19.44   | 19.46  | -      | 25            | 0     | 19.30           |         | 19.33     | 19.44  | -       |        |               |        |        |
| 64QAM  |   | 1               | 0         | 19.38   | 19.28  | 19.62  | -             | 64QAM | 1               |         | 0         | 19.33  | 19.47   | 19.49  | -             |        |        |
|  |   | 1               | 24        | 18.94   | 19.08  | 19.14  | -             |       | 1               |         | 12        | 19.11  | 19.10   | 19.15  | -             |        |        |
|  |   | 1               | 49        | 18.84   | 18.85  | 19.06  | -             |       | 1               |         | 24        | 19.05  | 19.01   | 19.19  | -             |        |        |
|  |   | 25              | 0         | 19.32   | 19.37  | 19.51  | -             |       | 12              |         | 0         | 19.49  | 19.31   | 19.39  | -             |        |        |
|  |   | 25              | 12        | 19.31   | 19.39  | 19.49  | -             |       | 12              |         | 6         | 19.31  | 19.43   | 19.35  | -             |        |        |
|  |   | 25              | 25        | 19.37   | 19.38  | 19.41  | -             |       | 12              |         | 13        | 19.30  | 19.26   | 19.40  | -             |        |        |
| 50   |   | 0               | 19.32     | 19.35   | 19.39  | -      | 25            | 0     | 19.43           |         | 19.29     | 19.51  | -       |        |               |        |        |

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| LTE Band 2   |   |                 |           |           |        |                 |               |        |               |                 |           |         |           |        |               |       |               |
|--|---|-----------------|-----------|-----------|--------|-----------------|---------------|--------|---------------|-----------------|-----------|---------|-----------|--------|---------------|-------|---------------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |   |                 |           |           |        |                 |               |        |               |                 |           |         |           |        |               |       |               |
| BW   | MCS Index                                     | RB Size         | RB Offset | Low       | Mid    | High            | 3GPP MPR (dB) | BW     | MCS Index     | RB Size         | RB Offset | Low     | Mid       | High   | 3GPP MPR (dB) |       |               |
|  |   | Channel         |           | 18615     | 18900  | 19185           |               |        |               | Channel         |           | 18607   | 18900     | 19193  |               |       |               |
|  |   | Frequency (MHz) |           | 1851.5    | 1880.0 | 1908.5          |               |        |               | Frequency (MHz) |           | 1850.7  | 1880.0    | 1909.3 |               |       |               |
| 3M   | QPSK  | 1               | 0         | 22.32     | 22.07  | 22.44           | 0             | 1.4M   | QPSK          | 1               | 0         | 22.24   | 22.07     | 22.29  | 0             |       |               |
|  |   | 1               | 7         | 21.77     | 21.57  | 21.78           | 0             |        |               | 1               | 2         | 21.78   | 21.63     | 21.74  | 0             |       |               |
|  |   | 1               | 14        | 21.64     | 21.56  | 21.69           | 0             |        |               | 1               | 5         | 21.78   | 21.48     | 21.74  | 0             |       |               |
|  |   | 8               | 0         | 20.90     | 20.55  | 20.91           | 1             |        |               | 3               | 0         | 21.88   | 21.72     | 21.80  | 0             |       |               |
|  |   | 8               | 3         | 20.77     | 20.73  | 20.78           | 1             |        |               | 3               | 1         | 21.73   | 21.64     | 21.85  | 0             |       |               |
|  |   | 8               | 7         | 20.80     | 20.63  | 20.82           | 1             |        |               | 3               | 3         | 21.68   | 21.62     | 21.73  | 0             |       |               |
|  | 16QAM   | 15              | 0         | 20.81     | 20.53  | 20.89           | 1             |        | 6             | 0               | 20.81     | 20.63   | 20.75     | 1      |               |       |               |
|  |   | 1               | 0         | 21.42     | 21.27  | 21.57           | 1             |        | 16QAM         | 1               | 0         | 21.56   | 21.25     | 21.49  | 1             |       |               |
|  |   | 1               | 7         | 21.08     | 20.87  | 21.08           | 1             |        |               | 1               | 2         | 21.12   | 20.85     | 21.05  | 1             |       |               |
|  |   | 1               | 14        | 21.00     | 20.87  | 21.05           | 1             |        |               | 1               | 5         | 21.13   | 20.82     | 21.04  | 1             |       |               |
|  |   | 8               | 0         | 19.89     | 19.57  | 19.83           | 2             |        |               | 3               | 0         | 20.91   | 20.65     | 20.95  | 1             |       |               |
|  |   | 8               | 3         | 19.89     | 19.67  | 19.82           | 2             |        |               | 3               | 1         | 20.88   | 20.63     | 20.89  | 1             |       |               |
|  | 8   | 7               | 19.79     | 19.60     | 19.71  | 2               | 3             |        |               | 3               | 20.80     | 20.54   | 20.80     | 1      |               |       |               |
|  | 64QAM   | 15              | 0         | 19.88     | 19.67  | 19.82           | 2             |        | 6             | 0               | 19.93     | 19.54   | 19.82     | 2      |               |       |               |
|  |   | 1               | 0         | 20.36     | 20.19  | 20.42           | 2             |        | 64QAM         | 1               | 0         | 20.33   | 20.08     | 20.41  | 2             |       |               |
|  |   | 1               | 7         | 20.01     | 19.82  | 20.05           | 2             |        |               | 1               | 2         | 19.96   | 19.82     | 20.02  | 2             |       |               |
|  |   | 1               | 14        | 19.87     | 19.65  | 20.02           | 2             |        |               | 1               | 5         | 20.02   | 19.67     | 20.03  | 2             |       |               |
|  |   | 8               | 0         | 18.94     | 18.65  | 19.00           | 3             |        |               | 3               | 0         | 19.94   | 19.72     | 19.95  | 2             |       |               |
|  |   | 8               | 3         | 18.97     | 18.75  | 18.86           | 3             |        |               | 3               | 1         | 19.87   | 19.68     | 19.79  | 2             |       |               |
|  | 8   | 7               | 18.72     | 18.50     | 18.76  | 3               | 3             |        |               | 3               | 19.64     | 19.55   | 19.77     | 2      |               |       |               |
|  | 15  | 0               | 18.82     | 18.64     | 18.80  | 3               | 6             |        | 0             | 18.91           | 18.68     | 18.87   | 3         |        |               |       |               |
|  | EUT with Power Reduction (P-Sensor Triggered) |                 |           |           |        |                 |               |        |               |                 |           |         |           |        |               |       |               |
|  | BW  | MCS Index       | RB Size   | RB Offset | Low    | Mid             | High          |        | 3GPP MPR (dB) | BW              | MCS Index | RB Size | RB Offset | Low    | Mid           | High  | 3GPP MPR (dB) |
|  |   |                 | Channel   |           | 18615  | 18900           | 19185         |        |               |                 |           | Channel |           | 18607  | 18900         | 19193 |               |
| Frequency (MHz)                                      |   |                 | 1851.5    | 1880.0    | 1908.5 | Frequency (MHz) |               | 1850.7 |               |                 |           | 1880.0  | 1909.3    |        |               |       |               |
| 3M   | QPSK  | 1               | 0         | 19.44     | 19.35  | 19.48           | -             | 1.4M   | QPSK          | 1               | 0         | 19.45   | 19.41     | 19.54  | -             |       |               |
|  |   | 1               | 7         | 19.04     | 19.17  | 19.28           | -             |        |               | 1               | 2         | 19.17   | 19.18     | 19.14  | -             |       |               |
|  |   | 1               | 14        | 19.03     | 18.96  | 19.14           | -             |        |               | 1               | 5         | 19.14   | 19.04     | 19.04  | -             |       |               |
|  |   | 8               | 0         | 19.38     | 19.47  | 19.52           | -             |        |               | 3               | 0         | 19.48   | 19.37     | 19.60  | -             |       |               |
|  |   | 8               | 3         | 19.46     | 19.40  | 19.50           | -             |        |               | 3               | 1         | 19.33   | 19.38     | 19.50  | -             |       |               |
|  |   | 8               | 7         | 19.29     | 19.28  | 19.57           | -             |        |               | 3               | 3         | 19.36   | 19.39     | 19.51  | -             |       |               |
|  | 16QAM   | 15              | 0         | 19.33     | 19.39  | 19.55           | -             |        | 6             | 0               | 19.36     | 19.30   | 19.49     | -      |               |       |               |
|  |   | 1               | 0         | 19.53     | 19.22  | 19.59           | -             |        | 16QAM         | 1               | 0         | 19.46   | 19.31     | 19.43  | -             |       |               |
|  |   | 1               | 7         | 19.10     | 19.06  | 19.03           | -             |        |               | 1               | 2         | 19.15   | 18.97     | 19.18  | -             |       |               |
|  |   | 1               | 14        | 18.99     | 18.87  | 19.00           | -             |        |               | 1               | 5         | 18.94   | 18.91     | 19.19  | -             |       |               |
|  |   | 8               | 0         | 19.28     | 19.33  | 19.36           | -             |        |               | 3               | 0         | 19.26   | 19.39     | 19.44  | -             |       |               |
|  |   | 8               | 3         | 19.27     | 19.31  | 19.36           | -             |        |               | 3               | 1         | 19.28   | 19.32     | 19.41  | -             |       |               |
|  | 8   | 7               | 19.35     | 19.37     | 19.49  | -               | 3             |        |               | 3               | 19.33     | 19.22   | 19.42     | -      |               |       |               |
|  | 64QAM   | 15              | 0         | 19.38     | 19.38  | 19.40           | -             |        | 6             | 0               | 19.42     | 19.28   | 19.52     | -      |               |       |               |
|  |   | 1               | 0         | 19.49     | 19.31  | 19.39           | -             |        | 64QAM         | 1               | 0         | 19.45   | 19.44     | 19.48  | -             |       |               |
|  |   | 1               | 7         | 19.12     | 19.09  | 19.21           | -             |        |               | 1               | 2         | 19.11   | 18.91     | 19.11  | -             |       |               |
|  |   | 1               | 14        | 19.01     | 19.00  | 19.12           | -             |        |               | 1               | 5         | 18.99   | 18.96     | 19.12  | -             |       |               |
|  |   | 8               | 0         | 19.37     | 19.28  | 19.51           | -             |        |               | 3               | 0         | 19.47   | 19.39     | 19.42  | -             |       |               |
|  |   | 8               | 3         | 19.30     | 19.23  | 19.44           | -             |        |               | 3               | 1         | 19.39   | 19.38     | 19.33  | -             |       |               |
|  | 8   | 7               | 19.33     | 19.29     | 19.46  | -               | 3             |        |               | 3               | 19.47     | 19.28   | 19.49     | -      |               |       |               |
|  | 15  | 0               | 19.30     | 19.24     | 19.45  | -               | 6             |        | 0             | 19.30           | 19.24     | 19.44   | -         |        |               |       |               |

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| LTE Band 4   |   |           |           |                         |        |        |               |                         |               |         |           |         |                         |        |               |        |               |
|--|---|-----------|-----------|-------------------------|--------|--------|---------------|-------------------------|---------------|---------|-----------|---------|-------------------------|--------|---------------|--------|---------------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |   |           |           |                         |        |        |               |                         |               |         |           |         |                         |        |               |        |               |
| BW   | MCS Index                                     | RB Size   | RB Offset | Low                     | Mid    | High   | 3GPP MPR (dB) | BW                      | MCS Index     | RB Size | RB Offset | Low     | Mid                     | High   | 3GPP MPR (dB) |        |               |
|  |   |           |           | 20050                   | 20175  | 20300  |               |                         |               |         |           | 20025   | 20175                   | 20325  |               |        |               |
|  |   |           |           | Channel Frequency (MHz) | 1720.0 | 1732.5 |               |                         |               |         |           | 1745.0  | Channel Frequency (MHz) | 1717.5 |               | 1732.5 | 1747.5        |
| 20M  | QPSK  | 1         | 0         | 23.71                   | 23.90  | 23.94  | 0             | 15M                     | QPSK          | 1       | 0         | 23.62   | 23.87                   | 23.86  | 0             |        |               |
|  |   | 1         | 50        | 23.72                   | 23.78  | 23.85  | 0             |                         |               | 1       | 37        | 23.68   | 23.83                   | 23.72  | 0             |        |               |
|  |   | 1         | 99        | 23.63                   | 23.67  | 23.69  | 0             |                         |               | 1       | 74        | 23.58   | 23.58                   | 23.51  | 0             |        |               |
|  |   | 50        | 0         | 22.76                   | 22.78  | 22.87  | 1             |                         |               | 36      | 0         | 22.76   | 22.86                   | 22.71  | 1             |        |               |
|  |   | 50        | 25        | 22.72                   | 22.78  | 22.86  | 1             |                         |               | 36      | 19        | 22.70   | 22.76                   | 22.70  | 1             |        |               |
|  |   | 50        | 50        | 22.71                   | 22.73  | 22.82  | 1             |                         |               | 36      | 39        | 22.66   | 22.76                   | 22.69  | 1             |        |               |
|  |   | 100       | 0         | 22.70                   | 22.74  | 22.83  | 1             |                         |               | 75      | 0         | 22.60   | 22.75                   | 22.72  | 1             |        |               |
|  | 16QAM   | 1         | 0         | 22.96                   | 23.08  | 23.11  | 1             |                         | 16QAM         | 1       | 0         | 22.69   | 22.84                   | 22.93  | 1             |        |               |
|  |   | 1         | 50        | 22.95                   | 23.15  | 22.99  | 1             |                         |               | 1       | 37        | 22.67   | 22.77                   | 22.67  | 1             |        |               |
|  |   | 1         | 99        | 22.94                   | 22.95  | 22.89  | 1             |                         |               | 1       | 74        | 22.67   | 22.59                   | 22.58  | 1             |        |               |
|  |   | 50        | 0         | 21.80                   | 21.92  | 21.84  | 2             |                         |               | 36      | 0         | 21.67   | 21.86                   | 21.77  | 2             |        |               |
|  |   | 50        | 25        | 21.76                   | 21.89  | 21.79  | 2             |                         |               | 36      | 19        | 21.63   | 21.77                   | 21.72  | 2             |        |               |
|  |   | 50        | 50        | 21.72                   | 21.87  | 21.77  | 2             |                         |               | 36      | 39        | 21.67   | 21.81                   | 21.67  | 2             |        |               |
|  |   | 100       | 0         | 21.72                   | 21.88  | 21.77  | 2             |                         |               | 75      | 0         | 21.61   | 21.83                   | 21.67  | 2             |        |               |
|  | 64QAM   | 1         | 0         | 21.71                   | 21.93  | 21.84  | 2             |                         | 64QAM         | 1       | 0         | 21.67   | 21.91                   | 21.86  | 2             |        |               |
|  |   | 1         | 50        | 21.67                   | 21.84  | 21.68  | 2             |                         |               | 1       | 37        | 21.69   | 21.83                   | 21.65  | 2             |        |               |
|  |   | 1         | 99        | 21.61                   | 21.62  | 21.55  | 2             |                         |               | 1       | 74        | 21.66   | 21.67                   | 21.58  | 2             |        |               |
|  |   | 50        | 0         | 20.66                   | 20.80  | 20.79  | 3             |                         |               | 36      | 0         | 20.72   | 20.81                   | 20.72  | 3             |        |               |
|  |   | 50        | 25        | 20.70                   | 20.80  | 20.73  | 3             |                         |               | 36      | 19        | 20.67   | 20.76                   | 20.67  | 3             |        |               |
|  |   | 50        | 50        | 20.66                   | 20.72  | 20.63  | 3             |                         |               | 36      | 39        | 20.66   | 20.75                   | 20.70  | 3             |        |               |
|  |   | 100       | 0         | 20.65                   | 20.73  | 20.67  | 3             |                         |               | 75      | 0         | 20.61   | 20.82                   | 20.68  | 3             |        |               |
|  | EUT with Power Reduction (P-Sensor Triggered) |           |           |                         |        |        |               |                         |               |         |           |         |                         |        |               |        |               |
|  | BW  | MCS Index | RB Size   | RB Offset               | Low    | Mid    | High          |                         | 3GPP MPR (dB) | BW      | MCS Index | RB Size | RB Offset               | Low    | Mid           | High   | 3GPP MPR (dB) |
|  |   |           |           |                         | 20050  | 20175  | 20300         |                         |               |         |           |         |                         | 20025  | 20175         | 20325  |               |
| Channel Frequency (MHz)                              |   |           |           |                         | 1720.0 | 1732.5 | 1745.0        | Channel Frequency (MHz) |               |         |           |         |                         | 1717.5 | 1732.5        | 1747.5 |               |
| 20M  | QPSK  | 1         | 0         | 21.08                   | 21.16  | 21.18  | -             | 15M                     | QPSK          | 1       | 0         | 21.07   | 21.07                   | 21.16  | -             |        |               |
|  |   | 1         | 50        | 20.89                   | 20.97  | 20.99  | -             |                         |               | 1       | 37        | 20.85   | 20.91                   | 20.94  | -             |        |               |
|  |   | 1         | 99        | 20.85                   | 20.93  | 20.95  | -             |                         |               | 1       | 74        | 20.77   | 20.93                   | 20.85  | -             |        |               |
|  |   | 50        | 0         | 21.01                   | 21.09  | 21.11  | -             |                         |               | 36      | 0         | 20.96   | 20.99                   | 21.09  | -             |        |               |
|  |   | 50        | 25        | 20.99                   | 21.07  | 21.09  | -             |                         |               | 36      | 19        | 20.95   | 21.03                   | 21.07  | -             |        |               |
|  |   | 50        | 50        | 20.95                   | 21.03  | 21.05  | -             |                         |               | 36      | 39        | 20.94   | 20.97                   | 20.96  | -             |        |               |
|  |   | 100       | 0         | 21.03                   | 21.11  | 21.13  | -             |                         |               | 75      | 0         | 20.93   | 21.08                   | 21.09  | -             |        |               |
|  | 16QAM   | 1         | 0         | 21.07                   | 21.06  | 21.08  | -             |                         | 16QAM         | 1       | 0         | 20.92   | 21.04                   | 21.10  | -             |        |               |
|  |   | 1         | 50        | 20.85                   | 20.92  | 20.91  | -             |                         |               | 1       | 37        | 20.85   | 20.84                   | 20.92  | -             |        |               |
|  |   | 1         | 99        | 20.75                   | 20.92  | 20.95  | -             |                         |               | 1       | 74        | 20.79   | 20.91                   | 20.82  | -             |        |               |
|  |   | 50        | 0         | 20.97                   | 21.00  | 21.09  | -             |                         |               | 36      | 0         | 20.89   | 21.00                   | 21.10  | -             |        |               |
|  |   | 50        | 25        | 20.95                   | 21.04  | 21.03  | -             |                         |               | 36      | 19        | 20.87   | 21.04                   | 20.98  | -             |        |               |
|  |   | 50        | 50        | 20.87                   | 20.94  | 21.05  | -             |                         |               | 36      | 39        | 20.89   | 20.94                   | 21.00  | -             |        |               |
|  |   | 100       | 0         | 20.94                   | 21.08  | 21.12  | -             |                         |               | 75      | 0         | 20.93   | 21.05                   | 21.05  | -             |        |               |
|  | 64QAM   | 1         | 0         | 20.98                   | 21.06  | 21.12  | -             |                         | 64QAM         | 1       | 0         | 20.96   | 21.02                   | 21.06  | -             |        |               |
|  |   | 1         | 50        | 20.79                   | 20.93  | 20.99  | -             |                         |               | 1       | 37        | 20.76   | 20.86                   | 20.84  | -             |        |               |
|  |   | 1         | 99        | 20.80                   | 20.83  | 20.89  | -             |                         |               | 1       | 74        | 20.73   | 20.78                   | 20.94  | -             |        |               |
|  |   | 50        | 0         | 20.93                   | 21.07  | 21.05  | -             |                         |               | 36      | 0         | 20.87   | 21.04                   | 20.96  | -             |        |               |
|  |   | 50        | 25        | 20.95                   | 21.06  | 21.05  | -             |                         |               | 36      | 19        | 20.90   | 21.01                   | 20.98  | -             |        |               |
|  |   | 50        | 50        | 20.90                   | 21.00  | 20.95  | -             |                         |               | 36      | 39        | 20.78   | 21.00                   | 20.98  | -             |        |               |
|  |   | 100       | 0         | 20.97                   | 21.03  | 21.11  | -             |                         |               | 75      | 0         | 20.99   | 21.00                   | 21.05  | -             |        |               |

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| LTE Band 4   |   |                 |           |           |        |         |               |       |                 |         |           |         |           |       |               |       |               |
|--|---|-----------------|-----------|-----------|--------|---------|---------------|-------|-----------------|---------|-----------|---------|-----------|-------|---------------|-------|---------------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |   |                 |           |           |        |         |               |       |                 |         |           |         |           |       |               |       |               |
| BW   | MCS Index                                     | RB Size         | RB Offset | Low       | Mid    | High    | 3GPP MPR (dB) | BW    | MCS Index       | RB Size | RB Offset | Low     | Mid       | High  | 3GPP MPR (dB) |       |               |
|  |   |                 |           | 20000     | 20175  | 20350   |               |       |                 |         |           | 19975   | 20175     | 20375 |               |       |               |
|  |   | Channel         | 20000     | 20175     | 20350  | Channel | 19975         |       |                 | 20175   | 20375     |         |           |       |               |       |               |
|  |   | Frequency (MHz) |           | 1715.0    | 1732.5 | 1750.0  |               |       | Frequency (MHz) |         | 1712.5    | 1732.5  | 1752.5    |       |               |       |               |
| 10M  | QPSK  | 1               | 0         | 23.67     | 23.92  | 23.92   | 0             | 5M    | QPSK            | 1       | 0         | 23.66   | 23.86     | 23.93 | 0             |       |               |
|  |   | 1               | 24        | 23.68     | 23.82  | 23.69   | 0             |       |                 | 1       | 12        | 23.69   | 23.80     | 23.65 | 0             |       |               |
|  |   | 1               | 49        | 23.65     | 23.58  | 23.58   | 0             |       |                 | 1       | 24        | 23.61   | 23.62     | 23.55 | 0             |       |               |
|  |   | 25              | 0         | 22.75     | 22.80  | 22.74   | 1             |       |                 | 12      | 0         | 22.66   | 22.84     | 22.75 | 1             |       |               |
|  |   | 25              | 12        | 22.72     | 22.81  | 22.74   | 1             |       |                 | 12      | 6         | 22.72   | 22.85     | 22.70 | 1             |       |               |
|  |   | 25              | 25        | 22.61     | 22.81  | 22.70   | 1             |       |                 | 12      | 13        | 22.64   | 22.81     | 22.65 | 1             |       |               |
|  | 16QAM   | 50              | 0         | 22.65     | 22.83  | 22.65   | 1             |       | 25              | 0       | 22.64     | 22.74   | 22.68     | 1     |               |       |               |
|  |   | 1               | 0         | 22.62     | 22.89  | 22.85   | 1             |       | 16QAM           | 1       | 0         | 22.67   | 22.90     | 22.91 | 1             |       |               |
|  |   | 1               | 24        | 22.66     | 22.79  | 22.70   | 1             |       |                 | 1       | 12        | 22.68   | 22.83     | 22.67 | 1             |       |               |
|  |   | 1               | 49        | 22.61     | 22.61  | 22.51   | 1             |       |                 | 1       | 24        | 22.64   | 22.64     | 22.52 | 1             |       |               |
|  |   | 25              | 0         | 21.75     | 21.85  | 21.79   | 2             |       |                 | 12      | 0         | 21.73   | 21.85     | 21.74 | 2             |       |               |
|  |   | 25              | 12        | 21.69     | 21.80  | 21.70   | 2             |       |                 | 12      | 6         | 21.68   | 21.84     | 21.74 | 2             |       |               |
|  | 25  | 25              | 21.61     | 21.75     | 21.71  | 2       | 12            |       |                 | 13      | 21.63     | 21.82   | 21.66     | 2     |               |       |               |
|  | 64QAM   | 50              | 0         | 21.66     | 21.76  | 21.71   | 2             |       | 25              | 0       | 21.63     | 21.83   | 21.67     | 2     |               |       |               |
|  |   | 1               | 0         | 21.65     | 21.90  | 21.91   | 2             |       | 64QAM           | 1       | 0         | 21.70   | 21.90     | 21.86 | 2             |       |               |
|  |   | 1               | 24        | 21.65     | 21.80  | 21.72   | 2             |       |                 | 1       | 12        | 21.67   | 21.85     | 21.66 | 2             |       |               |
|  |   | 1               | 49        | 21.59     | 21.62  | 21.61   | 2             |       |                 | 1       | 24        | 21.65   | 21.66     | 21.61 | 2             |       |               |
|  |   | 25              | 0         | 20.70     | 20.80  | 20.77   | 3             |       |                 | 12      | 0         | 20.69   | 20.82     | 20.71 | 3             |       |               |
|  |   | 25              | 12        | 20.72     | 20.79  | 20.74   | 3             |       |                 | 12      | 6         | 20.69   | 20.81     | 20.73 | 3             |       |               |
|  | 25  | 25              | 20.61     | 20.76     | 20.71  | 3       | 12            |       |                 | 13      | 20.70     | 20.72   | 20.73     | 3     |               |       |               |
|  | 50  | 0               | 20.69     | 20.73     | 20.64  | 3       | 25            |       | 0               | 20.65   | 20.83     | 20.69   | 3         |       |               |       |               |
|  | EUT with Power Reduction (P-Sensor Triggered) |                 |           |           |        |         |               |       |                 |         |           |         |           |       |               |       |               |
|  | BW  | MCS Index       | RB Size   | RB Offset | Low    | Mid     | High          |       | 3GPP MPR (dB)   | BW      | MCS Index | RB Size | RB Offset | Low   | Mid           | High  | 3GPP MPR (dB) |
|  |   |                 |           |           | 20000  | 20175   | 20350         |       |                 |         |           |         |           | 19975 | 20175         | 20375 |               |
| Channel  |   |                 | 20000     | 20175     | 20350  | Channel | 19975         | 20175 | 20375           |         |           |         |           |       |               |       |               |
|  |   | Frequency (MHz) |           | 1715.0    | 1732.5 | 1750.0  |               |       | Frequency (MHz) |         | 1712.5    | 1732.5  | 1752.5    |       |               |       |               |
| 10M  | QPSK  | 1               | 0         | 20.91     | 20.95  | 21.03   | -             | 5M    | QPSK            | 1       | 0         | 20.93   | 21.04     | 20.84 | -             |       |               |
|  |   | 1               | 24        | 20.85     | 20.85  | 20.89   | -             |       |                 | 1       | 12        | 20.75   | 20.77     | 20.90 | -             |       |               |
|  |   | 1               | 49        | 20.75     | 20.77  | 20.87   | -             |       |                 | 1       | 24        | 20.75   | 20.81     | 20.69 | -             |       |               |
|  |   | 25              | 0         | 20.97     | 20.87  | 20.97   | -             |       |                 | 12      | 0         | 20.89   | 21.06     | 21.02 | -             |       |               |
|  |   | 25              | 12        | 20.91     | 20.96  | 20.92   | -             |       |                 | 12      | 6         | 20.78   | 20.97     | 20.77 | -             |       |               |
|  |   | 25              | 25        | 20.91     | 20.96  | 21.03   | -             |       |                 | 12      | 13        | 20.91   | 20.92     | 20.82 | -             |       |               |
|  | 16QAM   | 50              | 0         | 20.87     | 20.97  | 20.98   | -             |       | 25              | 0       | 20.93     | 21.00   | 20.95     | -     |               |       |               |
|  |   | 1               | 0         | 20.92     | 20.92  | 20.92   | -             |       | 16QAM           | 1       | 0         | 20.91   | 21.01     | 21.04 | -             |       |               |
|  |   | 1               | 24        | 20.61     | 20.69  | 20.79   | -             |       |                 | 1       | 12        | 20.76   | 20.76     | 20.96 | -             |       |               |
|  |   | 1               | 49        | 20.70     | 20.67  | 20.81   | -             |       |                 | 1       | 24        | 20.70   | 20.80     | 20.64 | -             |       |               |
|  |   | 25              | 0         | 20.76     | 20.90  | 21.02   | -             |       |                 | 12      | 0         | 20.83   | 20.82     | 21.08 | -             |       |               |
|  |   | 25              | 12        | 20.82     | 20.81  | 21.02   | -             |       |                 | 12      | 6         | 20.85   | 20.84     | 20.84 | -             |       |               |
|  | 25  | 25              | 20.73     | 20.81     | 20.82  | -       | 12            |       |                 | 13      | 20.73     | 20.93   | 20.89     | -     |               |       |               |
|  | 64QAM   | 50              | 0         | 20.92     | 21.09  | 21.04   | -             |       | 25              | 0       | 20.82     | 20.92   | 20.90     | -     |               |       |               |
|  |   | 1               | 0         | 20.85     | 20.88  | 21.02   | -             |       | 64QAM           | 1       | 0         | 20.83   | 20.95     | 21.09 | -             |       |               |
|  |   | 1               | 24        | 20.64     | 20.70  | 20.82   | -             |       |                 | 1       | 12        | 20.74   | 20.78     | 20.74 | -             |       |               |
|  |   | 1               | 49        | 20.66     | 20.78  | 20.71   | -             |       |                 | 1       | 24        | 20.61   | 20.79     | 20.69 | -             |       |               |
|  |   | 25              | 0         | 20.80     | 20.92  | 20.87   | -             |       |                 | 12      | 0         | 20.82   | 20.91     | 20.92 | -             |       |               |
|  |   | 25              | 12        | 20.77     | 20.88  | 20.90   | -             |       |                 | 12      | 6         | 20.78   | 20.92     | 20.98 | -             |       |               |
|  | 25  | 25              | 20.76     | 20.86     | 20.90  | -       | 12            |       |                 | 13      | 20.81     | 20.89   | 20.90     | -     |               |       |               |
|  | 50  | 0               | 20.85     | 21.06     | 21.01  | -       | 25            |       | 0               | 20.88   | 20.90     | 21.02   | -         |       |               |       |               |

# FCC SAR Test Report

| LTE Band 4   |   |                 |           |           |        |                 |               |        |               |                 |           |         |           |        |               |       |               |
|--|---|-----------------|-----------|-----------|--------|-----------------|---------------|--------|---------------|-----------------|-----------|---------|-----------|--------|---------------|-------|---------------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |   |                 |           |           |        |                 |               |        |               |                 |           |         |           |        |               |       |               |
| BW   | MCS Index                                     | RB Size         | RB Offset | Low       | Mid    | High            | 3GPP MPR (dB) | BW     | MCS Index     | RB Size         | RB Offset | Low     | Mid       | High   | 3GPP MPR (dB) |       |               |
|  |   | Channel         |           | 19965     | 20175  | 20385           |               |        |               | Channel         |           | 19957   | 20175     | 20393  |               |       |               |
|  |   | Frequency (MHz) |           | 1711.5    | 1732.5 | 1753.5          |               |        |               | Frequency (MHz) |           | 1710.7  | 1732.5    | 1754.3 |               |       |               |
| 3M   | QPSK  | 1               | 0         | 23.63     | 23.90  | 23.85           | 0             | 1.4M   | QPSK          | 1               | 0         | 23.61   | 23.90     | 23.93  | 0             |       |               |
|  |   | 1               | 7         | 23.71     | 23.84  | 23.65           | 0             |        |               | 1               | 2         | 23.63   | 23.85     | 23.62  | 0             |       |               |
|  |   | 1               | 14        | 23.60     | 23.66  | 23.61           | 0             |        |               | 1               | 5         | 23.58   | 23.67     | 23.51  | 0             |       |               |
|  |   | 8               | 0         | 22.76     | 22.80  | 22.75           | 1             |        |               | 3               | 0         | 22.67   | 22.80     | 22.79  | 0             |       |               |
|  |   | 8               | 3         | 22.70     | 22.80  | 22.72           | 1             |        |               | 3               | 1         | 22.65   | 22.79     | 22.75  | 0             |       |               |
|  |   | 8               | 7         | 22.62     | 22.74  | 22.72           | 1             |        |               | 3               | 3         | 22.69   | 22.79     | 22.68  | 0             |       |               |
|  | 15  | 0               | 22.64     | 22.83     | 22.69  | 1               | 6             |        | 0             | 22.61           | 22.78     | 22.74   | 1         |        |               |       |               |
|  | 16QAM   | 1               | 0         | 22.71     | 22.88  | 22.93           | 1             |        | 1             | 0               | 22.61     | 22.85   | 22.88     | 1      |               |       |               |
|  |   | 1               | 7         | 22.72     | 22.82  | 22.68           | 1             |        | 1             | 2               | 22.70     | 22.82   | 22.67     | 1      |               |       |               |
|  |   | 1               | 14        | 22.67     | 22.67  | 22.51           | 1             |        | 1             | 5               | 22.60     | 22.57   | 22.60     | 1      |               |       |               |
|  |   | 8               | 0         | 21.66     | 21.79  | 21.76           | 2             |        | 3             | 0               | 21.72     | 21.80   | 21.75     | 1      |               |       |               |
|  |   | 8               | 3         | 21.72     | 21.84  | 21.68           | 2             |        | 3             | 1               | 21.69     | 21.78   | 21.70     | 1      |               |       |               |
|  |   | 8               | 7         | 21.67     | 21.75  | 21.67           | 2             |        | 3             | 3               | 21.70     | 21.80   | 21.64     | 1      |               |       |               |
|  | 15  | 0               | 21.66     | 21.79     | 21.70  | 2               | 6             |        | 0             | 21.65           | 21.75     | 21.72   | 2         |        |               |       |               |
|  | 64QAM   | 1               | 0         | 21.64     | 21.84  | 21.85           | 2             |        | 1             | 0               | 21.68     | 21.91   | 21.93     | 2      |               |       |               |
|  |   | 1               | 7         | 21.64     | 21.83  | 21.62           | 2             |        | 1             | 2               | 21.68     | 21.84   | 21.65     | 2      |               |       |               |
|  |   | 1               | 14        | 21.58     | 21.67  | 21.57           | 2             |        | 1             | 5               | 21.67     | 21.61   | 21.61     | 2      |               |       |               |
|  |   | 8               | 0         | 20.75     | 20.79  | 20.73           | 3             |        | 3             | 0               | 20.76     | 20.80   | 20.79     | 2      |               |       |               |
|  |   | 8               | 3         | 20.68     | 20.86  | 20.69           | 3             |        | 3             | 1               | 20.66     | 20.82   | 20.72     | 2      |               |       |               |
|  |   | 8               | 7         | 20.62     | 20.72  | 20.63           | 3             |        | 3             | 3               | 20.63     | 20.81   | 20.68     | 2      |               |       |               |
|  | 15  | 0               | 20.60     | 20.74     | 20.72  | 3               | 6             |        | 0             | 20.64           | 20.74     | 20.71   | 3         |        |               |       |               |
|  | EUT with Power Reduction (P-Sensor Triggered) |                 |           |           |        |                 |               |        |               |                 |           |         |           |        |               |       |               |
|  | BW  | MCS Index       | RB Size   | RB Offset | Low    | Mid             | High          |        | 3GPP MPR (dB) | BW              | MCS Index | RB Size | RB Offset | Low    | Mid           | High  | 3GPP MPR (dB) |
|  |   |                 | Channel   |           | 19965  | 20175           | 20385         |        |               |                 |           | Channel |           | 19957  | 20175         | 20393 |               |
| Frequency (MHz)                                      |   |                 | 1711.5    | 1732.5    | 1753.5 | Frequency (MHz) |               | 1710.7 |               |                 |           | 1732.5  | 1754.3    |        |               |       |               |
| 3M   | QPSK  | 1               | 0         | 20.93     | 21.06  | 21.17           | -             | 1.4M   | QPSK          | 1               | 0         | 21.00   | 20.98     | 21.15  | -             |       |               |
|  |   | 1               | 7         | 20.69     | 20.80  | 20.83           | -             |        |               | 1               | 2         | 20.72   | 20.84     | 20.80  | -             |       |               |
|  |   | 1               | 14        | 20.79     | 20.84  | 20.83           | -             |        |               | 1               | 5         | 20.76   | 20.80     | 20.71  | -             |       |               |
|  |   | 8               | 0         | 20.90     | 20.97  | 21.03           | -             |        |               | 3               | 0         | 20.89   | 21.04     | 20.96  | -             |       |               |
|  |   | 8               | 3         | 20.84     | 21.02  | 21.01           | -             |        |               | 3               | 1         | 20.93   | 20.93     | 21.04  | -             |       |               |
|  |   | 8               | 7         | 20.86     | 20.93  | 20.98           | -             |        |               | 3               | 3         | 20.79   | 20.95     | 20.98  | -             |       |               |
|  | 15  | 0               | 20.95     | 20.87     | 21.06  | -               | 6             |        | 0             | 20.89           | 20.94     | 20.89   | -         |        |               |       |               |
|  | 16QAM   | 1               | 0         | 20.92     | 20.94  | 20.96           | -             |        | 1             | 0               | 20.88     | 21.07   | 21.03     | -      |               |       |               |
|  |   | 1               | 7         | 20.63     | 20.82  | 20.81           | -             |        | 1             | 2               | 20.77     | 20.85   | 20.79     | -      |               |       |               |
|  |   | 1               | 14        | 20.64     | 20.66  | 20.76           | -             |        | 1             | 5               | 20.77     | 20.58   | 20.76     | -      |               |       |               |
|  |   | 8               | 0         | 20.76     | 20.95  | 20.89           | -             |        | 3             | 0               | 20.82     | 20.98   | 20.94     | -      |               |       |               |
|  |   | 8               | 3         | 20.85     | 20.86  | 20.78           | -             |        | 3             | 1               | 20.72     | 20.95   | 20.86     | -      |               |       |               |
|  |   | 8               | 7         | 20.62     | 20.79  | 20.97           | -             |        | 3             | 3               | 20.89     | 20.85   | 20.96     | -      |               |       |               |
|  | 15  | 0               | 20.84     | 21.06     | 20.84  | -               | 6             |        | 0             | 20.82           | 20.92     | 21.01   | -         |        |               |       |               |
|  | 64QAM   | 1               | 0         | 20.87     | 21.02  | 20.99           | -             |        | 1             | 0               | 20.88     | 21.03   | 21.05     | -      |               |       |               |
|  |   | 1               | 7         | 20.74     | 20.88  | 20.83           | -             |        | 1             | 2               | 20.83     | 20.86   | 20.72     | -      |               |       |               |
|  |   | 1               | 14        | 20.74     | 20.81  | 20.69           | -             |        | 1             | 5               | 20.75     | 20.81   | 20.76     | -      |               |       |               |
|  |   | 8               | 0         | 20.88     | 20.87  | 20.90           | -             |        | 3             | 0               | 20.72     | 20.99   | 20.91     | -      |               |       |               |
|  |   | 8               | 3         | 20.77     | 20.92  | 20.95           | -             |        | 3             | 1               | 20.70     | 20.92   | 20.89     | -      |               |       |               |
|  |   | 8               | 7         | 20.69     | 20.92  | 20.94           | -             |        | 3             | 3               | 20.78     | 20.86   | 20.82     | -      |               |       |               |
|  | 15  | 0               | 20.83     | 20.89     | 20.91  | -               | 6             |        | 0             | 20.88           | 21.03     | 20.96   | -         |        |               |       |               |

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| LTE Band 5 |           |                 |           |       |       |       |               |      |           |                 |           |       |       |       |               |
|------------|-----------|-----------------|-----------|-------|-------|-------|---------------|------|-----------|-----------------|-----------|-------|-------|-------|---------------|
| BW         | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  | 3GPP MPR (dB) | BW   | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  | 3GPP MPR (dB) |
|            |           | Channel         |           | 20450 | 20525 | 20600 |               |      |           | Channel         |           | 20425 | 20525 | 20625 |               |
|            |           | Frequency (MHz) |           | 829.0 | 836.5 | 844.0 |               |      |           | Frequency (MHz) |           | 826.5 | 836.5 | 846.5 |               |
| 10M        | QPSK      | 1               | 0         | 23.53 | 23.44 | 23.48 | 0             | 5M   | QPSK      | 1               | 0         | 23.52 | 23.35 | 23.42 | 0             |
|            |           | 1               | 24        | 23.44 | 23.41 | 23.42 | 0             |      |           | 1               | 12        | 23.36 | 23.38 | 23.39 | 0             |
|            |           | 1               | 49        | 23.40 | 23.33 | 23.31 | 0             |      |           | 1               | 24        | 23.36 | 23.29 | 23.26 | 0             |
|            |           | 25              | 0         | 22.54 | 22.53 | 22.50 | 1             |      |           | 12              | 0         | 22.50 | 22.50 | 22.44 | 1             |
|            |           | 25              | 12        | 22.49 | 22.46 | 22.47 | 1             |      |           | 12              | 6         | 22.45 | 22.38 | 22.45 | 1             |
|            |           | 25              | 25        | 22.49 | 22.41 | 22.44 | 1             |      |           | 12              | 13        | 22.44 | 22.40 | 22.42 | 1             |
|            | 50        | 0               | 22.52     | 22.43 | 22.48 | 1     | 25            |      | 0         | 22.52           | 22.34     | 22.43 | 1     |       |               |
|            | 16QAM     | 1               | 0         | 22.77 | 22.71 | 22.73 | 1             |      | 16QAM     | 1               | 0         | 22.47 | 22.36 | 22.43 | 1             |
|            |           | 1               | 24        | 22.83 | 22.72 | 22.75 | 1             |      |           | 1               | 12        | 22.36 | 22.35 | 22.36 | 1             |
|            |           | 1               | 49        | 22.69 | 22.63 | 22.65 | 1             |      |           | 1               | 24        | 22.40 | 22.23 | 22.21 | 1             |
|            |           | 25              | 0         | 21.55 | 21.49 | 21.53 | 2             |      |           | 12              | 0         | 21.53 | 21.52 | 21.44 | 2             |
|            |           | 25              | 12        | 21.51 | 21.46 | 21.49 | 2             |      |           | 12              | 6         | 21.46 | 21.45 | 21.43 | 2             |
|            |           | 25              | 25        | 21.46 | 21.39 | 21.44 | 2             |      |           | 12              | 13        | 21.46 | 21.38 | 21.44 | 2             |
|            | 50        | 0               | 21.51     | 21.45 | 21.49 | 2     | 25            |      | 0         | 21.52           | 21.37     | 21.40 | 2     |       |               |
|            | 64QAM     | 1               | 0         | 21.43 | 21.39 | 21.43 | 2             |      | 64QAM     | 1               | 0         | 21.49 | 21.34 | 21.47 | 2             |
|            |           | 1               | 24        | 21.44 | 21.41 | 21.33 | 2             |      |           | 1               | 12        | 21.44 | 21.33 | 21.33 | 2             |
|            |           | 1               | 49        | 21.34 | 21.28 | 21.26 | 2             |      |           | 1               | 24        | 21.39 | 21.28 | 21.28 | 2             |
|            |           | 25              | 0         | 20.50 | 20.53 | 20.48 | 3             |      |           | 12              | 0         | 20.46 | 20.46 | 20.47 | 3             |
|            |           | 25              | 12        | 20.45 | 20.44 | 20.43 | 3             |      |           | 12              | 6         | 20.39 | 20.41 | 20.39 | 3             |
|            |           | 25              | 25        | 20.47 | 20.34 | 20.35 | 3             |      |           | 12              | 13        | 20.42 | 20.34 | 20.38 | 3             |
|            | 50        | 0               | 20.46     | 20.37 | 20.44 | 3     | 25            |      | 0         | 20.45           | 20.37     | 20.45 | 3     |       |               |
| 3M         | QPSK      | 1               | 0         | 23.49 | 23.32 | 23.40 | 0             | 1.4M | QPSK      | 1               | 0         | 23.41 | 23.27 | 23.40 | 0             |
|            |           | 1               | 7         | 23.42 | 23.28 | 23.30 | 0             |      |           | 1               | 2         | 23.37 | 23.26 | 23.34 | 0             |
|            |           | 1               | 14        | 23.30 | 23.26 | 23.18 | 0             |      |           | 1               | 5         | 23.29 | 23.24 | 23.21 | 0             |
|            |           | 8               | 0         | 22.52 | 22.44 | 22.47 | 1             |      |           | 3               | 0         | 22.49 | 22.39 | 22.37 | 0             |
|            |           | 8               | 3         | 22.37 | 22.36 | 22.33 | 1             |      |           | 3               | 1         | 22.39 | 22.35 | 22.41 | 0             |
|            |           | 8               | 7         | 22.34 | 22.29 | 22.31 | 1             |      |           | 3               | 3         | 22.38 | 22.28 | 22.35 | 0             |
|            | 15        | 0               | 22.44     | 22.24 | 22.36 | 1     | 6             |      | 0         | 22.42           | 22.36     | 22.47 | 1     |       |               |
|            | 16QAM     | 1               | 0         | 22.47 | 22.30 | 22.42 | 1             |      | 16QAM     | 1               | 0         | 22.49 | 22.27 | 22.37 | 1             |
|            |           | 1               | 7         | 22.35 | 22.31 | 22.32 | 1             |      |           | 1               | 2         | 22.30 | 22.29 | 22.39 | 1             |
|            |           | 1               | 14        | 22.37 | 22.23 | 22.18 | 1             |      |           | 1               | 5         | 22.21 | 22.18 | 22.29 | 1             |
|            |           | 8               | 0         | 21.43 | 21.46 | 21.48 | 2             |      |           | 3               | 0         | 21.51 | 21.40 | 21.43 | 1             |
|            |           | 8               | 3         | 21.34 | 21.38 | 21.36 | 2             |      |           | 3               | 1         | 21.44 | 21.36 | 21.45 | 1             |
|            |           | 8               | 7         | 21.30 | 21.26 | 21.33 | 2             |      |           | 3               | 3         | 21.38 | 21.34 | 21.30 | 1             |
|            | 15        | 0               | 21.42     | 21.31 | 21.41 | 2     | 6             |      | 0         | 21.43           | 21.39     | 21.46 | 2     |       |               |
|            | 64QAM     | 1               | 0         | 21.43 | 21.33 | 21.38 | 2             |      | 64QAM     | 1               | 0         | 21.48 | 21.28 | 21.35 | 2             |
|            |           | 1               | 7         | 21.36 | 21.34 | 21.30 | 2             |      |           | 1               | 2         | 21.34 | 21.30 | 21.34 | 2             |
|            |           | 1               | 14        | 21.35 | 21.16 | 21.20 | 2             |      |           | 1               | 5         | 21.28 | 21.24 | 21.26 | 2             |
|            |           | 8               | 0         | 20.43 | 20.44 | 20.43 | 3             |      |           | 3               | 0         | 20.48 | 20.41 | 20.37 | 2             |
|            |           | 8               | 3         | 20.37 | 20.45 | 20.32 | 3             |      |           | 3               | 1         | 20.46 | 20.38 | 20.45 | 2             |
|            |           | 8               | 7         | 20.40 | 20.24 | 20.34 | 3             |      |           | 3               | 3         | 20.32 | 20.30 | 20.33 | 2             |
|            | 15        | 0               | 20.43     | 20.25 | 20.40 | 3     | 6             |      | 0         | 20.44           | 20.34     | 20.39 | 3     |       |               |



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| LTE Band 7   |   |           |           |                 |         |        |               |                 |               |         |           |         |                 |        |               |        |               |
|--|---|-----------|-----------|-----------------|---------|--------|---------------|-----------------|---------------|---------|-----------|---------|-----------------|--------|---------------|--------|---------------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |   |           |           |                 |         |        |               |                 |               |         |           |         |                 |        |               |        |               |
| BW   | MCS Index                                     | RB Size   | RB Offset | Low             | Mid     | High   | 3GPP MPR (dB) | BW              | MCS Index     | RB Size | RB Offset | Low     | Mid             | High   | 3GPP MPR (dB) |        |               |
|  |   |           |           | Channel         | 20850   | 21100  |               |                 |               |         |           | 21350   | Channel         | 20825  |               | 21100  | 21375         |
|  |   |           |           | Frequency (MHz) | 2510.0  | 2535.0 |               |                 |               |         |           | 2560.0  | Frequency (MHz) | 2507.5 |               | 2535.0 | 2562.5        |
| 20M  | QPSK  | 1         | 0         | 22.61           | 22.74   | 22.73  | 0             | 15M             | QPSK          | 1       | 0         | 22.43   | 22.59           | 22.62  | 0             |        |               |
|  |   | 1         | 50        | 22.49           | 22.69   | 22.50  | 0             |                 |               | 1       | 37        | 22.32   | 22.56           | 22.38  | 0             |        |               |
|  |   | 1         | 99        | 22.37           | 22.64   | 22.39  | 0             |                 |               | 1       | 74        | 22.22   | 22.56           | 22.35  | 0             |        |               |
|  |   | 50        | 0         | 21.58           | 21.74   | 21.68  | 1             |                 |               | 36      | 0         | 21.41   | 21.69           | 21.55  | 1             |        |               |
|  |   | 50        | 25        | 21.51           | 21.73   | 21.57  | 1             |                 |               | 36      | 19        | 21.35   | 21.58           | 21.46  | 1             |        |               |
|  |   | 50        | 50        | 21.55           | 21.72   | 21.59  | 1             |                 |               | 36      | 39        | 21.45   | 21.70           | 21.43  | 1             |        |               |
|  |   | 100       | 0         | 21.59           | 21.74   | 21.60  | 1             |                 |               | 75      | 0         | 21.51   | 21.58           | 21.44  | 1             |        |               |
|  | 16QAM   | 1         | 0         | 21.94           | 22.06   | 22.07  | 1             |                 | 16QAM         | 1       | 0         | 21.52   | 21.56           | 21.65  | 1             |        |               |
|  |   | 1         | 50        | 21.81           | 21.95   | 21.82  | 1             |                 |               | 1       | 37        | 21.35   | 21.55           | 21.36  | 1             |        |               |
|  |   | 1         | 99        | 21.66           | 21.93   | 21.72  | 1             |                 |               | 1       | 74        | 21.23   | 21.62           | 21.31  | 1             |        |               |
|  |   | 50        | 0         | 20.67           | 20.78   | 20.71  | 2             |                 |               | 36      | 0         | 20.40   | 20.73           | 20.50  | 2             |        |               |
|  |   | 50        | 25        | 21.61           | 20.79   | 20.62  | 2             |                 |               | 36      | 19        | 20.36   | 20.56           | 20.46  | 2             |        |               |
|  |   | 50        | 50        | 20.63           | 20.72   | 20.57  | 2             |                 |               | 36      | 39        | 20.50   | 20.72           | 20.43  | 2             |        |               |
|  |   | 100       | 0         | 20.63           | 20.73   | 20.56  | 2             |                 |               | 75      | 0         | 20.53   | 20.66           | 20.43  | 2             |        |               |
|  | 64QAM   | 1         | 0         | 20.55           | 20.67   | 20.65  | 2             |                 | 64QAM         | 1       | 0         | 20.50   | 20.54           | 20.64  | 2             |        |               |
|  |   | 1         | 50        | 20.44           | 20.69   | 20.43  | 2             |                 |               | 1       | 37        | 20.37   | 20.56           | 20.40  | 2             |        |               |
|  |   | 1         | 99        | 20.31           | 20.62   | 20.29  | 2             |                 |               | 1       | 74        | 20.24   | 20.56           | 20.25  | 2             |        |               |
|  |   | 50        | 0         | 19.54           | 19.68   | 19.64  | 3             |                 |               | 36      | 0         | 19.42   | 19.63           | 19.59  | 3             |        |               |
|  |   | 50        | 25        | 19.50           | 19.69   | 19.57  | 3             |                 |               | 36      | 19        | 19.36   | 19.61           | 19.52  | 3             |        |               |
|  |   | 50        | 50        | 19.54           | 19.72   | 19.49  | 3             |                 |               | 36      | 39        | 19.51   | 19.71           | 19.47  | 3             |        |               |
|  |   | 100       | 0         | 19.50           | 19.67   | 19.57  | 3             |                 |               | 75      | 0         | 19.53   | 19.58           | 19.44  | 3             |        |               |
|  | EUT with Power Reduction (P-Sensor Triggered) |           |           |                 |         |        |               |                 |               |         |           |         |                 |        |               |        |               |
|  | BW  | MCS Index | RB Size   | RB Offset       | Low     | Mid    | High          |                 | 3GPP MPR (dB) | BW      | MCS Index | RB Size | RB Offset       | Low    | Mid           | High   | 3GPP MPR (dB) |
|  |   |           |           |                 | Channel | 20850  | 21100         |                 |               |         |           |         |                 | 21350  | Channel       | 20825  |               |
| Frequency (MHz)                                      |   |           |           |                 | 2510.0  | 2535.0 | 2560.0        | Frequency (MHz) |               |         |           |         |                 | 2507.5 | 2535.0        | 2562.5 |               |
| 20M  | QPSK  | 1         | 0         | 20.71           | 20.77   | 20.62  | -             | 15M             | QPSK          | 1       | 0         | 20.62   | 20.73           | 20.58  | -             |        |               |
|  |   | 1         | 50        | 20.53           | 20.59   | 20.44  | -             |                 |               | 1       | 37        | 20.45   | 20.59           | 20.38  | -             |        |               |
|  |   | 1         | 99        | 20.32           | 20.38   | 20.23  | -             |                 |               | 1       | 74        | 20.23   | 20.29           | 20.20  | -             |        |               |
|  |   | 50        | 0         | 20.65           | 20.71   | 20.56  | -             |                 |               | 36      | 0         | 20.55   | 20.64           | 20.46  | -             |        |               |
|  |   | 50        | 25        | 20.58           | 20.64   | 20.49  | -             |                 |               | 36      | 19        | 20.52   | 20.60           | 20.39  | -             |        |               |
|  |   | 50        | 50        | 20.50           | 20.56   | 20.41  | -             |                 |               | 36      | 39        | 20.50   | 20.56           | 20.31  | -             |        |               |
|  |   | 100       | 0         | 20.59           | 20.65   | 20.50  | -             |                 |               | 75      | 0         | 20.54   | 20.56           | 20.46  | -             |        |               |
|  | 16QAM   | 1         | 0         | 20.66           | 20.74   | 20.54  | -             |                 | 16QAM         | 1       | 0         | 20.63   | 20.74           | 20.50  | -             |        |               |
|  |   | 1         | 50        | 20.48           | 20.55   | 20.42  | -             |                 |               | 1       | 37        | 20.46   | 20.53           | 20.27  | -             |        |               |
|  |   | 1         | 99        | 20.24           | 20.32   | 20.14  | -             |                 |               | 1       | 74        | 20.18   | 20.26           | 20.19  | -             |        |               |
|  |   | 50        | 0         | 20.61           | 20.71   | 20.55  | -             |                 |               | 36      | 0         | 20.54   | 20.67           | 20.46  | -             |        |               |
|  |   | 50        | 25        | 20.55           | 20.60   | 20.42  | -             |                 |               | 36      | 19        | 20.51   | 20.55           | 20.35  | -             |        |               |
|  |   | 50        | 50        | 20.41           | 20.51   | 20.33  | -             |                 |               | 36      | 39        | 20.45   | 20.48           | 20.32  | -             |        |               |
|  |   | 100       | 0         | 20.57           | 20.58   | 20.42  | -             |                 |               | 75      | 0         | 20.45   | 20.57           | 20.43  | -             |        |               |
|  | 64QAM   | 1         | 0         | 20.63           | 20.74   | 20.52  | -             |                 | 64QAM         | 1       | 0         | 20.65   | 20.64           | 20.54  | -             |        |               |
|  |   | 1         | 50        | 20.47           | 20.57   | 20.44  | -             |                 |               | 1       | 37        | 20.47   | 20.46           | 20.38  | -             |        |               |
|  |   | 1         | 99        | 20.31           | 20.31   | 20.23  | -             |                 |               | 1       | 74        | 20.23   | 20.29           | 20.12  | -             |        |               |
|  |   | 50        | 0         | 20.58           | 20.66   | 20.48  | -             |                 |               | 36      | 0         | 20.54   | 20.69           | 20.40  | -             |        |               |
|  |   | 50        | 25        | 20.57           | 20.63   | 20.41  | -             |                 |               | 36      | 19        | 20.50   | 20.54           | 20.39  | -             |        |               |
|  |   | 50        | 50        | 20.48           | 20.53   | 20.31  | -             |                 |               | 36      | 39        | 20.46   | 20.48           | 20.34  | -             |        |               |
|  |   | 100       | 0         | 20.58           | 20.63   | 20.40  | -             |                 |               | 75      | 0         | 20.47   | 20.58           | 20.40  | -             |        |               |

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| LTE Band 7   |   |           |           |                 |         |        |               |                 |               |         |           |         |                 |        |               |        |               |
|--|---|-----------|-----------|-----------------|---------|--------|---------------|-----------------|---------------|---------|-----------|---------|-----------------|--------|---------------|--------|---------------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |   |           |           |                 |         |        |               |                 |               |         |           |         |                 |        |               |        |               |
| BW   | MCS Index                                     | RB Size   | RB Offset | Low             | Mid     | High   | 3GPP MPR (dB) | BW              | MCS Index     | RB Size | RB Offset | Low     | Mid             | High   | 3GPP MPR (dB) |        |               |
|  |   |           |           | Channel         | 20800   | 21100  |               |                 |               |         |           | 21400   | Channel         | 20775  |               | 21100  | 21425         |
|  |   |           |           | Frequency (MHz) | 2505.0  | 2535.0 |               |                 |               |         |           | 2565.0  | Frequency (MHz) | 2502.5 |               | 2535.0 | 2567.5        |
| 10M  | QPSK  | 1         | 0         | 22.54           | 22.62   | 22.61  | 0             | 5M              | QPSK          | 1       | 0         | 22.56   | 22.72           | 22.64  | 0             |        |               |
|  |   | 1         | 24        | 22.40           | 22.68   | 22.45  | 0             |                 |               | 1       | 12        | 22.46   | 22.63           | 22.43  | 0             |        |               |
|  |   | 1         | 49        | 22.25           | 22.55   | 22.34  | 0             |                 |               | 1       | 24        | 22.27   | 22.56           | 22.31  | 0             |        |               |
|  |   | 25        | 0         | 21.44           | 21.66   | 21.59  | 1             |                 |               | 12      | 0         | 21.57   | 21.72           | 21.68  | 1             |        |               |
|  |   | 25        | 12        | 21.39           | 21.63   | 21.43  | 1             |                 |               | 12      | 6         | 21.43   | 21.72           | 21.47  | 1             |        |               |
|  |   | 25        | 25        | 21.54           | 21.62   | 21.48  | 1             |                 |               | 12      | 13        | 21.54   | 21.62           | 21.52  | 1             |        |               |
|  | 16QAM   | 50        | 0         | 21.52           | 21.68   | 21.52  | 1             |                 | 25            | 0       | 21.51     | 21.70   | 21.55           | 1      |               |        |               |
|  |   | 1         | 0         | 21.48           | 21.67   | 21.65  | 1             |                 | 16QAM         | 1       | 0         | 21.51   | 21.69           | 21.68  | 1             |        |               |
|  |   | 1         | 24        | 21.40           | 21.61   | 21.40  | 1             |                 |               | 1       | 12        | 21.40   | 21.64           | 21.42  | 1             |        |               |
|  |   | 1         | 49        | 21.19           | 21.52   | 21.36  | 1             |                 |               | 1       | 24        | 21.31   | 21.61           | 21.35  | 1             |        |               |
|  |   | 25        | 0         | 20.51           | 20.57   | 20.63  | 2             |                 |               | 12      | 0         | 20.54   | 20.71           | 20.58  | 2             |        |               |
|  |   | 25        | 12        | 20.48           | 20.63   | 20.48  | 2             |                 |               | 12      | 6         | 20.46   | 20.66           | 20.56  | 2             |        |               |
|  | 25  | 25        | 20.52     | 20.60           | 20.44   | 2      | 12            |                 |               | 13      | 20.51     | 20.68   | 20.58           | 2      |               |        |               |
|  | 64QAM   | 50        | 0         | 20.46           | 20.66   | 20.45  | 2             |                 | 25            | 0       | 20.52     | 20.70   | 20.59           | 2      |               |        |               |
|  |   | 1         | 0         | 20.54           | 20.65   | 20.57  | 2             |                 | 64QAM         | 1       | 0         | 20.54   | 20.73           | 20.67  | 2             |        |               |
|  |   | 1         | 24        | 20.34           | 20.66   | 20.46  | 2             |                 |               | 1       | 12        | 20.43   | 20.65           | 20.47  | 2             |        |               |
|  |   | 1         | 49        | 20.19           | 20.53   | 20.39  | 2             |                 |               | 1       | 24        | 20.33   | 20.55           | 20.29  | 2             |        |               |
|  |   | 25        | 0         | 19.52           | 19.61   | 19.59  | 3             |                 |               | 12      | 0         | 19.49   | 19.73           | 19.68  | 3             |        |               |
|  |   | 25        | 12        | 19.40           | 19.62   | 19.47  | 3             |                 |               | 12      | 6         | 19.48   | 19.74           | 19.48  | 3             |        |               |
|  | 25  | 25        | 19.53     | 19.66           | 19.44   | 3      | 12            |                 |               | 13      | 19.55     | 19.68   | 19.56           | 3      |               |        |               |
|  | 50  | 0         | 19.46     | 19.69           | 19.48   | 3      | 25            |                 | 0             | 19.53   | 19.70     | 19.53   | 3               |        |               |        |               |
|  | EUT with Power Reduction (P-Sensor Triggered) |           |           |                 |         |        |               |                 |               |         |           |         |                 |        |               |        |               |
|  | BW  | MCS Index | RB Size   | RB Offset       | Low     | Mid    | High          |                 | 3GPP MPR (dB) | BW      | MCS Index | RB Size | RB Offset       | Low    | Mid           | High   | 3GPP MPR (dB) |
|  |   |           |           |                 | Channel | 20800  | 21100         |                 |               |         |           |         |                 | 21400  | Channel       | 20775  |               |
| Frequency (MHz)                                      |   |           |           |                 | 2505.0  | 2535.0 | 2565.0        | Frequency (MHz) |               |         |           |         |                 | 2502.5 | 2535.0        | 2567.5 |               |
| 10M  | QPSK  | 1         | 0         | 20.63           | 20.75   | 20.44  | -             | 5M              | QPSK          | 1       | 0         | 20.69   | 20.57           | 20.32  | -             |        |               |
|  |   | 1         | 24        | 20.38           | 20.45   | 20.34  | -             |                 |               | 1       | 12        | 20.38   | 20.51           | 20.30  | -             |        |               |
|  |   | 1         | 49        | 20.24           | 20.34   | 20.20  | -             |                 |               | 1       | 24        | 20.27   | 20.33           | 20.20  | -             |        |               |
|  |   | 25        | 0         | 20.48           | 20.49   | 20.44  | -             |                 |               | 12      | 0         | 20.46   | 20.57           | 20.36  | -             |        |               |
|  |   | 25        | 12        | 20.40           | 20.59   | 20.40  | -             |                 |               | 12      | 6         | 20.43   | 20.50           | 20.31  | -             |        |               |
|  |   | 25        | 25        | 20.41           | 20.40   | 20.24  | -             |                 |               | 12      | 13        | 20.34   | 20.47           | 20.31  | -             |        |               |
|  | 16QAM   | 50        | 0         | 20.50           | 20.43   | 20.31  | -             |                 | 25            | 0       | 20.42     | 20.54   | 20.23           | -      |               |        |               |
|  |   | 1         | 0         | 20.51           | 20.63   | 20.33  | -             |                 | 16QAM         | 1       | 0         | 20.69   | 20.66           | 20.45  | -             |        |               |
|  |   | 1         | 24        | 20.47           | 20.43   | 20.28  | -             |                 |               | 1       | 12        | 20.32   | 20.27           | 20.19  | -             |        |               |
|  |   | 1         | 49        | 20.13           | 20.12   | 20.08  | -             |                 |               | 1       | 24        | 20.21   | 20.18           | 19.99  | -             |        |               |
|  |   | 25        | 0         | 20.54           | 20.52   | 20.45  | -             |                 |               | 12      | 0         | 20.54   | 20.51           | 20.39  | -             |        |               |
|  |   | 25        | 12        | 20.40           | 20.51   | 20.31  | -             |                 |               | 12      | 6         | 20.48   | 20.38           | 20.39  | -             |        |               |
|  | 25  | 25        | 20.37     | 20.42           | 20.23   | -      | 12            |                 |               | 13      | 20.25     | 20.34   | 20.26           | -      |               |        |               |
|  | 64QAM   | 50        | 0         | 20.45           | 20.45   | 20.26  | -             |                 | 25            | 0       | 20.38     | 20.57   | 20.40           | -      |               |        |               |
|  |   | 1         | 0         | 20.55           | 20.65   | 20.47  | -             |                 | 64QAM         | 1       | 0         | 20.64   | 20.62           | 20.36  | -             |        |               |
|  |   | 1         | 24        | 20.34           | 20.33   | 20.31  | -             |                 |               | 1       | 12        | 20.32   | 20.40           | 20.28  | -             |        |               |
|  |   | 1         | 49        | 20.16           | 20.29   | 20.03  | -             |                 |               | 1       | 24        | 20.11   | 20.20           | 19.99  | -             |        |               |
|  |   | 25        | 0         | 20.45           | 20.47   | 20.43  | -             |                 |               | 12      | 0         | 20.48   | 20.61           | 20.27  | -             |        |               |
|  |   | 25        | 12        | 20.33           | 20.51   | 20.25  | -             |                 |               | 12      | 6         | 20.25   | 20.39           | 20.36  | -             |        |               |
|  | 25  | 25        | 20.29     | 20.42           | 20.28   | -      | 12            |                 |               | 13      | 20.29     | 20.37   | 20.24           | -      |               |        |               |
|  | 50  | 0         | 20.48     | 20.48           | 20.37   | -      | 25            |                 | 0             | 20.35   | 20.42     | 20.23   | -               |        |               |        |               |

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| LTE Band 12  |   |                 |           |           |         |         |               |         |                 |         |           |         |           |         |               |       |               |
|--|---|-----------------|-----------|-----------|---------|---------|---------------|---------|-----------------|---------|-----------|---------|-----------|---------|---------------|-------|---------------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |   |                 |           |           |         |         |               |         |                 |         |           |         |           |         |               |       |               |
| BW   | MCS Index                                     | RB Size         | RB Offset | Low       | Mid     | High    | 3GPP MPR (dB) | BW      | MCS Index       | RB Size | RB Offset | Low     | Mid       | High    | 3GPP MPR (dB) |       |               |
|  |   |                 |           | 23060     | 23095   | 23130   |               |         |                 |         |           | 23035   | 23095     | 23155   |               |       |               |
|  |   |                 |           | Channel   | Channel | Channel |               |         |                 |         |           | Channel | Channel   | Channel |               |       |               |
|  |   | Frequency (MHz) |           | 704.0     | 707.5   | 711.0   |               |         | Frequency (MHz) |         | 701.5     | 707.5   | 713.5     |         |               |       |               |
| 10M  | QPSK  | 1               | 0         | 23.57     | 23.62   | 23.60   | 0             | 5M      | QPSK            | 1       | 0         | 23.53   | 23.61     | 23.54   | 0             |       |               |
|  |   | 1               | 24        | 23.45     | 23.52   | 23.50   | 0             |         |                 | 1       | 12        | 23.45   | 23.46     | 23.46   | 0             |       |               |
|  |   | 1               | 49        | 23.40     | 23.52   | 23.44   | 0             |         |                 | 1       | 24        | 23.36   | 23.45     | 23.37   | 0             |       |               |
|  |   | 25              | 0         | 22.52     | 22.59   | 22.54   | 1             |         |                 | 12      | 0         | 22.50   | 22.53     | 22.53   | 1             |       |               |
|  |   | 25              | 12        | 22.51     | 22.57   | 22.53   | 1             |         |                 | 12      | 6         | 22.50   | 22.51     | 22.47   | 1             |       |               |
|  |   | 25              | 25        | 22.43     | 22.50   | 22.47   | 1             |         |                 | 12      | 13        | 22.40   | 22.45     | 22.45   | 1             |       |               |
|  |   | 50              | 0         | 22.44     | 22.57   | 22.55   | 1             |         |                 | 25      | 0         | 22.44   | 22.51     | 22.46   | 1             |       |               |
|  | 16QAM   | 1               | 0         | 22.75     | 22.71   | 22.80   | 1             |         | 16QAM           | 1       | 0         | 22.57   | 22.62     | 22.52   | 1             |       |               |
|  |   | 1               | 24        | 22.74     | 22.71   | 22.72   | 1             |         |                 | 1       | 12        | 22.37   | 22.47     | 22.42   | 1             |       |               |
|  |   | 1               | 49        | 22.77     | 22.60   | 22.60   | 1             |         |                 | 1       | 24        | 22.34   | 22.47     | 22.34   | 1             |       |               |
|  |   | 25              | 0         | 21.59     | 21.53   | 21.59   | 2             |         |                 | 12      | 0         | 21.49   | 21.51     | 21.50   | 2             |       |               |
|  |   | 25              | 12        | 21.54     | 21.62   | 21.54   | 2             |         |                 | 12      | 6         | 21.46   | 21.58     | 21.50   | 2             |       |               |
|  |   | 25              | 25        | 21.50     | 21.47   | 21.46   | 2             |         |                 | 12      | 13        | 21.36   | 21.44     | 21.46   | 2             |       |               |
|  |   | 50              | 0         | 21.54     | 21.57   | 21.53   | 2             |         |                 | 25      | 0         | 21.35   | 21.56     | 21.47   | 2             |       |               |
|  | 64QAM   | 1               | 0         | 21.49     | 21.56   | 21.56   | 2             |         | 64QAM           | 1       | 0         | 21.57   | 21.62     | 21.52   | 2             |       |               |
|  |   | 1               | 24        | 21.31     | 21.40   | 21.36   | 2             |         |                 | 1       | 12        | 21.43   | 21.49     | 21.48   | 2             |       |               |
|  |   | 1               | 49        | 21.35     | 21.36   | 21.42   | 2             |         |                 | 1       | 24        | 21.31   | 21.51     | 21.35   | 2             |       |               |
|  |   | 25              | 0         | 20.48     | 20.52   | 20.40   | 3             |         |                 | 12      | 0         | 20.49   | 20.55     | 20.47   | 3             |       |               |
|  |   | 25              | 12        | 20.48     | 20.47   | 20.42   | 3             |         |                 | 12      | 6         | 20.50   | 20.49     | 20.51   | 3             |       |               |
|  |   | 25              | 25        | 20.35     | 20.42   | 20.41   | 3             |         |                 | 12      | 13        | 20.43   | 20.50     | 20.42   | 3             |       |               |
|  |   | 50              | 0         | 20.25     | 20.49   | 20.41   | 3             |         |                 | 25      | 0         | 20.44   | 20.52     | 20.55   | 3             |       |               |
|  | EUT with Power Reduction (P-Sensor Triggered) |                 |           |           |         |         |               |         |                 |         |           |         |           |         |               |       |               |
|  | BW  | MCS Index       | RB Size   | RB Offset | Low     | Mid     | High          |         | 3GPP MPR (dB)   | BW      | MCS Index | RB Size | RB Offset | Low     | Mid           | High  | 3GPP MPR (dB) |
|  |   |                 |           |           | 23060   | 23095   | 23130         |         |                 |         |           |         |           | 23035   | 23095         | 23155 |               |
| Channel  |   |                 |           |           | Channel | Channel | Channel       | Channel |                 |         |           |         |           | Channel |               |       |               |
|  |   | Frequency (MHz) |           | 704.0     | 707.5   | 711.0   |               |         | Frequency (MHz) |         | 701.5     | 707.5   | 713.5     |         |               |       |               |
| 10M  | QPSK  | 1               | 0         | 21.89     | 21.94   | 21.88   | -             | 5M      | QPSK            | 1       | 0         | 21.88   | 21.86     | 21.87   | -             |       |               |
|  |   | 1               | 24        | 21.74     | 21.79   | 21.73   | -             |         |                 | 1       | 12        | 21.69   | 21.78     | 21.70   | -             |       |               |
|  |   | 1               | 49        | 21.63     | 21.68   | 21.62   | -             |         |                 | 1       | 24        | 21.56   | 21.65     | 21.61   | -             |       |               |
|  |   | 25              | 0         | 21.79     | 21.84   | 21.78   | -             |         |                 | 12      | 0         | 21.78   | 21.84     | 21.74   | -             |       |               |
|  |   | 25              | 12        | 21.78     | 21.83   | 21.77   | -             |         |                 | 12      | 6         | 21.72   | 21.81     | 21.76   | -             |       |               |
|  |   | 25              | 25        | 21.74     | 21.79   | 21.73   | -             |         |                 | 12      | 13        | 21.66   | 21.78     | 21.66   | -             |       |               |
|  |   | 50              | 0         | 21.83     | 21.88   | 21.82   | -             |         |                 | 25      | 0         | 21.81   | 21.84     | 21.72   | -             |       |               |
|  | 16QAM   | 1               | 0         | 21.81     | 21.89   | 21.85   | -             |         | 16QAM           | 1       | 0         | 21.85   | 21.89     | 21.76   | -             |       |               |
|  |   | 1               | 24        | 21.67     | 21.78   | 21.70   | -             |         |                 | 1       | 12        | 21.66   | 21.73     | 21.60   | -             |       |               |
|  |   | 1               | 49        | 21.56     | 21.63   | 21.53   | -             |         |                 | 1       | 24        | 21.48   | 21.59     | 21.57   | -             |       |               |
|  |   | 25              | 0         | 21.76     | 21.74   | 21.68   | -             |         |                 | 12      | 0         | 21.77   | 21.75     | 21.65   | -             |       |               |
|  |   | 25              | 12        | 21.73     | 21.74   | 21.70   | -             |         |                 | 12      | 6         | 21.68   | 21.82     | 21.72   | -             |       |               |
|  |   | 25              | 25        | 21.66     | 21.74   | 21.64   | -             |         |                 | 12      | 13        | 21.66   | 21.70     | 21.63   | -             |       |               |
|  |   | 50              | 0         | 21.74     | 21.84   | 21.74   | -             |         |                 | 25      | 0         | 21.72   | 21.80     | 21.71   | -             |       |               |
|  | 64QAM   | 1               | 0         | 21.89     | 21.84   | 21.79   | -             |         | 64QAM           | 1       | 0         | 21.84   | 21.82     | 21.78   | -             |       |               |
|  |   | 1               | 24        | 21.68     | 21.69   | 21.67   | -             |         |                 | 1       | 12        | 21.71   | 21.77     | 21.69   | -             |       |               |
|  |   | 1               | 49        | 21.58     | 21.58   | 21.59   | -             |         |                 | 1       | 24        | 21.46   | 21.57     | 21.51   | -             |       |               |
|  |   | 25              | 0         | 21.74     | 21.77   | 21.76   | -             |         |                 | 12      | 0         | 21.70   | 21.78     | 21.72   | -             |       |               |
|  |   | 25              | 12        | 21.68     | 21.81   | 21.72   | -             |         |                 | 12      | 6         | 21.67   | 21.69     | 21.68   | -             |       |               |
|  |   | 25              | 25        | 21.74     | 21.75   | 21.65   | -             |         |                 | 12      | 13        | 21.63   | 21.63     | 21.57   | -             |       |               |
|  |   | 50              | 0         | 21.73     | 21.85   | 21.80   | -             |         |                 | 25      | 0         | 21.72   | 21.74     | 21.68   | -             |       |               |

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| LTE Band 12  |           |                 |           |         |       |       |               |       |                 |         |           |       |         |       |               |
|--|-----------|-----------------|-----------|---------|-------|-------|---------------|-------|-----------------|---------|-----------|-------|---------|-------|---------------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |           |                 |           |         |       |       |               |       |                 |         |           |       |         |       |               |
| BW   | MCS Index | RB Size         | RB Offset | Low     | Mid   | High  | 3GPP MPR (dB) | BW    | MCS Index       | RB Size | RB Offset | Low   | Mid     | High  | 3GPP MPR (dB) |
|  |           |                 |           | 23025   | 23095 | 23165 |               |       |                 |         |           | 23017 | 23095   | 23173 |               |
|  |           |                 |           | Channel | 700.5 | 707.5 |               |       |                 |         |           | 714.5 | Channel | 699.7 |               |
|  |           | Frequency (MHz) |           |         |       |       |               |       | Frequency (MHz) |         |           |       |         |       |               |
| 3M   | QPSK      | 1               | 0         | 23.49   | 23.51 | 23.55 | 0             | 1.4M  | QPSK            | 1       | 0         | 23.44 | 23.54   | 23.51 | 0             |
|  |           | 1               | 7         | 23.30   | 23.42 | 23.49 | 0             |       |                 | 1       | 2         | 23.30 | 23.43   | 23.38 | 0             |
|  |           | 1               | 14        | 23.27   | 23.35 | 23.38 | 0             |       |                 | 1       | 5         | 23.29 | 23.40   | 23.33 | 0             |
|  |           | 8               | 0         | 22.44   | 22.45 | 22.43 | 1             |       |                 | 3       | 0         | 22.43 | 22.55   | 22.46 | 0             |
|  |           | 8               | 3         | 22.40   | 22.51 | 22.40 | 1             |       |                 | 3       | 1         | 22.35 | 22.58   | 22.40 | 0             |
|  |           | 8               | 7         | 22.30   | 22.33 | 22.38 | 1             |       |                 | 3       | 3         | 22.40 | 22.34   | 22.39 | 0             |
|  | 15        | 0               | 22.33     | 22.56   | 22.38 | 1     | 6             |       | 0               | 22.30   | 22.49     | 22.37 | 1       |       |               |
|  | 16QAM     | 1               | 0         | 22.44   | 22.50 | 22.56 | 1             |       | 16QAM           | 1       | 0         | 22.42 | 22.58   | 22.53 | 1             |
|  |           | 1               | 7         | 22.25   | 22.44 | 22.50 | 1             |       |                 | 1       | 2         | 22.33 | 22.40   | 22.37 | 1             |
|  |           | 1               | 14        | 22.24   | 22.40 | 22.38 | 1             |       |                 | 1       | 5         | 22.21 | 22.47   | 22.33 | 1             |
|  |           | 8               | 0         | 21.44   | 21.42 | 21.39 | 2             |       |                 | 3       | 0         | 21.36 | 21.53   | 21.41 | 1             |
|  |           | 8               | 3         | 21.46   | 21.46 | 21.45 | 2             |       |                 | 3       | 1         | 21.39 | 21.56   | 21.36 | 1             |
|  |           | 8               | 7         | 21.30   | 21.41 | 21.34 | 2             |       |                 | 3       | 3         | 21.33 | 21.35   | 21.40 | 1             |
|  | 15        | 0               | 21.31     | 21.54   | 21.38 | 2     | 6             |       | 0               | 21.30   | 21.48     | 21.40 | 2       |       |               |
|  | 64QAM     | 1               | 0         | 21.49   | 21.49 | 21.57 | 2             |       | 64QAM           | 1       | 0         | 21.47 | 21.56   | 21.51 | 2             |
|  |           | 1               | 7         | 21.35   | 21.40 | 21.44 | 2             |       |                 | 1       | 2         | 21.31 | 21.47   | 21.40 | 2             |
|  |           | 1               | 14        | 21.28   | 21.44 | 21.31 | 2             |       |                 | 1       | 5         | 21.26 | 21.42   | 21.35 | 2             |
|  |           | 8               | 0         | 20.47   | 20.45 | 20.38 | 3             |       |                 | 3       | 0         | 20.35 | 20.55   | 20.46 | 2             |
| 8  |           | 3               | 20.44     | 20.54   | 20.45 | 3     | 3             | 1     |                 | 20.43   | 20.57     | 20.34 | 2       |       |               |
| 8  |           | 7               | 20.28     | 20.35   | 20.38 | 3     | 3             | 3     |                 | 20.39   | 20.32     | 20.41 | 2       |       |               |
| 15   | 0         | 20.35           | 20.53     | 20.42   | 3     | 6     | 0             | 20.39 | 20.44           | 20.37   | 3         |       |         |       |               |
| EUT with Power Reduction (P-Sensor Triggered)        |           |                 |           |         |       |       |               |       |                 |         |           |       |         |       |               |
| BW   | MCS Index | RB Size         | RB Offset | Low     | Mid   | High  | 3GPP MPR (dB) | BW    | MCS Index       | RB Size | RB Offset | Low   | Mid     | High  | 3GPP MPR (dB) |
|  |           |                 |           | 23025   | 23095 | 23165 |               |       |                 |         |           | 23017 | 23095   | 23173 |               |
|  |           |                 |           | Channel | 700.5 | 707.5 |               |       |                 |         |           | 714.5 | Channel | 699.7 |               |
|  |           | Frequency (MHz) |           |         |       |       |               |       | Frequency (MHz) |         |           |       |         |       |               |
| 3M   | QPSK      | 1               | 0         | 21.84   | 21.87 | 21.74 | -             | 1.4M  | QPSK            | 1       | 0         | 21.84 | 21.80   | 21.65 | -             |
|  |           | 1               | 7         | 21.52   | 21.56 | 21.55 | -             |       |                 | 1       | 2         | 21.59 | 21.60   | 21.55 | -             |
|  |           | 1               | 14        | 21.46   | 21.50 | 21.50 | -             |       |                 | 1       | 5         | 21.47 | 21.58   | 21.40 | -             |
|  |           | 8               | 0         | 21.61   | 21.72 | 21.68 | -             |       |                 | 3       | 0         | 21.73 | 21.71   | 21.62 | -             |
|  |           | 8               | 3         | 21.60   | 21.74 | 21.57 | -             |       |                 | 3       | 1         | 21.61 | 21.74   | 21.61 | -             |
|  |           | 8               | 7         | 21.57   | 21.67 | 21.59 | -             |       |                 | 3       | 3         | 21.57 | 21.72   | 21.56 | -             |
|  | 15        | 0               | 21.73     | 21.73   | 21.70 | -     | 6             |       | 0               | 21.77   | 21.76     | 21.72 | -       |       |               |
|  | 16QAM     | 1               | 0         | 21.72   | 21.80 | 21.71 | -             |       | 16QAM           | 1       | 0         | 21.73 | 21.78   | 21.72 | -             |
|  |           | 1               | 7         | 21.62   | 21.62 | 21.53 | -             |       |                 | 1       | 2         | 21.62 | 21.64   | 21.66 | -             |
|  |           | 1               | 14        | 21.32   | 21.46 | 21.44 | -             |       |                 | 1       | 5         | 21.42 | 21.54   | 21.47 | -             |
|  |           | 8               | 0         | 21.47   | 21.54 | 21.61 | -             |       |                 | 3       | 0         | 21.63 | 21.72   | 21.65 | -             |
|  |           | 8               | 3         | 21.62   | 21.79 | 21.56 | -             |       |                 | 3       | 1         | 21.67 | 21.65   | 21.55 | -             |
|  |           | 8               | 7         | 21.63   | 21.61 | 21.63 | -             |       |                 | 3       | 3         | 21.58 | 21.50   | 21.53 | -             |
|  | 15        | 0               | 21.65     | 21.74   | 21.71 | -     | 6             |       | 0               | 21.66   | 21.77     | 21.58 | -       |       |               |
|  | 64QAM     | 1               | 0         | 21.83   | 21.78 | 21.63 | -             |       | 64QAM           | 1       | 0         | 21.68 | 21.76   | 21.72 | -             |
|  |           | 1               | 7         | 21.47   | 21.70 | 21.64 | -             |       |                 | 1       | 2         | 21.65 | 21.65   | 21.49 | -             |
|  |           | 1               | 14        | 21.45   | 21.40 | 21.52 | -             |       |                 | 1       | 5         | 21.42 | 21.52   | 21.39 | -             |
|  |           | 8               | 0         | 21.54   | 21.62 | 21.61 | -             |       |                 | 3       | 0         | 21.71 | 21.74   | 21.56 | -             |
| 8  |           | 3               | 21.66     | 21.62   | 21.65 | -     | 3             | 1     |                 | 21.60   | 21.70     | 21.71 | -       |       |               |
| 8  |           | 7               | 21.54     | 21.66   | 21.53 | -     | 3             | 3     |                 | 21.62   | 21.69     | 21.50 | -       |       |               |
| 15   | 0         | 21.62           | 21.75     | 21.66   | -     | 6     | 0             | 21.61 | 21.69           | 21.76   | -         |       |         |       |               |

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| LTE Band 13 |           |                 |           |       |              |      |               |       |           |         |                 |       |       |       |               |       |       |       |  |
|-------------|-----------|-----------------|-----------|-------|--------------|------|---------------|-------|-----------|---------|-----------------|-------|-------|-------|---------------|-------|-------|-------|--|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid          | High | 3GPP MPR (dB) | BW    | MCS Index | RB Size | RB Offset       | Low   | Mid   | High  | 3GPP MPR (dB) |       |       |       |  |
|             |           | Channel         |           |       |              |      |               |       |           | 23230   | Channel         |       |       |       |               | 23205 | 23230 | 23225 |  |
|             |           | Frequency (MHz) |           |       |              |      |               |       |           | 782.0   | Frequency (MHz) |       |       |       |               | 779.5 | 782.0 | 784.5 |  |
| 10M         | QPSK      | 1               | 0         |       | 23.59        |      | 0             | 5M    | QPSK      | 1       | 0               | 23.53 | 23.55 | 23.53 | 0             |       |       |       |  |
|             |           | 1               | 24        |       | 23.51        |      | 0             |       |           | 1       | 12              | 23.41 | 23.45 | 23.44 | 0             |       |       |       |  |
|             |           | 1               | 49        |       | <b>23.68</b> |      | 0             |       |           | 1       | 24              | 23.36 | 23.43 | 23.36 | 0             |       |       |       |  |
|             |           | 25              | 0         |       | 22.54        |      | 1             |       |           | 12      | 0               | 22.45 | 22.51 | 22.47 | 1             |       |       |       |  |
|             |           | 25              | 12        |       | 22.49        |      | 1             |       |           | 12      | 6               | 22.39 | 22.48 | 22.46 | 1             |       |       |       |  |
|             |           | 25              | 25        |       | 22.57        |      | 1             |       |           | 12      | 13              | 22.50 | 22.56 | 22.52 | 1             |       |       |       |  |
|             | 50        | 0               |           | 22.51 |              | 1    | 25            | 0     | 22.49     | 22.41   | 22.41           | 1     |       |       |               |       |       |       |  |
|             | 16QAM     | 1               | 0         |       | 22.85        |      | 1             | 16QAM | 1         | 0       | 22.52           | 22.47 | 22.56 | 1     |               |       |       |       |  |
|             |           | 1               | 24        |       | 22.69        |      | 1             |       | 1         | 12      | 22.38           | 22.41 | 22.45 | 1     |               |       |       |       |  |
|             |           | 1               | 49        |       | 22.67        |      | 1             |       | 1         | 24      | 22.40           | 22.38 | 22.37 | 1     |               |       |       |       |  |
|             |           | 25              | 0         |       | 21.59        |      | 2             |       | 12        | 0       | 21.49           | 21.44 | 21.49 | 2     |               |       |       |       |  |
|             |           | 25              | 12        |       | 21.58        |      | 2             |       | 12        | 6       | 21.42           | 21.48 | 21.40 | 2     |               |       |       |       |  |
|             |           | 25              | 25        |       | 21.51        |      | 2             |       | 12        | 13      | 21.54           | 21.52 | 21.50 | 2     |               |       |       |       |  |
|             | 50        | 0               |           | 21.54 |              | 2    | 25            | 0     | 21.43     | 21.42   | 21.48           | 2     |       |       |               |       |       |       |  |
|             | 64QAM     | 1               | 0         |       | 21.48        |      | 2             | 64QAM | 1         | 0       | 21.56           | 21.52 | 21.47 | 2     |               |       |       |       |  |
|             |           | 1               | 24        |       | 21.40        |      | 2             |       | 1         | 12      | 21.36           | 21.41 | 21.38 | 2     |               |       |       |       |  |
|             |           | 1               | 49        |       | 21.37        |      | 2             |       | 1         | 24      | 21.44           | 21.43 | 21.46 | 2     |               |       |       |       |  |
|             |           | 25              | 0         |       | 20.53        |      | 3             |       | 12        | 0       | 20.53           | 20.53 | 20.50 | 3     |               |       |       |       |  |
|             |           | 25              | 12        |       | 20.41        |      | 3             |       | 12        | 6       | 20.41           | 20.49 | 20.49 | 3     |               |       |       |       |  |
|             |           | 25              | 25        |       | 20.53        |      | 3             |       | 12        | 13      | 20.52           | 20.48 | 20.49 | 3     |               |       |       |       |  |
|             | 50        | 0               |           | 20.43 |              | 3    | 25            | 0     | 20.48     | 20.45   | 20.49           | 3     |       |       |               |       |       |       |  |

| LTE Band 14 |           |                 |           |       |              |      |               |       |           |         |                 |       |       |       |               |       |       |       |  |
|-------------|-----------|-----------------|-----------|-------|--------------|------|---------------|-------|-----------|---------|-----------------|-------|-------|-------|---------------|-------|-------|-------|--|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid          | High | 3GPP MPR (dB) | BW    | MCS Index | RB Size | RB Offset       | Low   | Mid   | High  | 3GPP MPR (dB) |       |       |       |  |
|             |           | Channel         |           |       |              |      |               |       |           | 23330   | Channel         |       |       |       |               | 23305 | 23330 | 23355 |  |
|             |           | Frequency (MHz) |           |       |              |      |               |       |           | 793.0   | Frequency (MHz) |       |       |       |               | 790.5 | 793.0 | 795.5 |  |
| 10M         | QPSK      | 1               | 0         |       | 23.53        |      | 0             | 5M    | QPSK      | 1       | 0               | 23.33 | 23.41 | 23.33 | 0             |       |       |       |  |
|             |           | 1               | 24        |       | 23.57        |      | 0             |       |           | 1       | 12              | 23.40 | 23.46 | 23.36 | 0             |       |       |       |  |
|             |           | 1               | 49        |       | <b>23.65</b> |      | 0             |       |           | 1       | 24              | 23.36 | 23.46 | 23.36 | 0             |       |       |       |  |
|             |           | 25              | 0         |       | 22.42        |      | 1             |       |           | 12      | 0               | 22.35 | 22.36 | 22.35 | 1             |       |       |       |  |
|             |           | 25              | 12        |       | 22.50        |      | 1             |       |           | 12      | 6               | 22.33 | 22.43 | 22.37 | 1             |       |       |       |  |
|             |           | 25              | 25        |       | 22.54        |      | 1             |       |           | 12      | 13              | 22.37 | 22.53 | 22.39 | 1             |       |       |       |  |
|             | 50        | 0               |           | 22.44 |              | 1    | 25            | 0     | 22.43     | 22.43   | 22.41           | 1     |       |       |               |       |       |       |  |
|             | 16QAM     | 1               | 0         |       | 22.73        |      | 1             | 16QAM | 1         | 0       | 22.33           | 22.41 | 22.29 | 1     |               |       |       |       |  |
|             |           | 1               | 24        |       | 22.69        |      | 1             |       | 1         | 12      | 22.40           | 22.44 | 22.39 | 1     |               |       |       |       |  |
|             |           | 1               | 49        |       | 22.75        |      | 1             |       | 1         | 24      | 22.35           | 22.50 | 22.36 | 1     |               |       |       |       |  |
|             |           | 25              | 0         |       | 21.44        |      | 2             |       | 12        | 0       | 21.29           | 21.33 | 21.38 | 2     |               |       |       |       |  |
|             |           | 25              | 12        |       | 21.53        |      | 2             |       | 12        | 6       | 21.39           | 21.40 | 21.44 | 2     |               |       |       |       |  |
|             |           | 25              | 25        |       | 21.57        |      | 2             |       | 12        | 13      | 21.42           | 21.52 | 21.46 | 2     |               |       |       |       |  |
|             | 50        | 0               |           | 21.52 |              | 2    | 25            | 0     | 21.43     | 21.41   | 21.34           | 2     |       |       |               |       |       |       |  |
|             | 64QAM     | 1               | 0         |       | 21.35        |      | 2             | 64QAM | 1         | 0       | 21.40           | 21.39 | 21.32 | 2     |               |       |       |       |  |
|             |           | 1               | 24        |       | 21.40        |      | 2             |       | 1         | 12      | 21.32           | 21.43 | 21.36 | 2     |               |       |       |       |  |
|             |           | 1               | 49        |       | 21.46        |      | 2             |       | 1         | 24      | 21.35           | 21.40 | 21.41 | 2     |               |       |       |       |  |
|             |           | 25              | 0         |       | 20.25        |      | 3             |       | 12        | 0       | 20.36           | 20.37 | 20.34 | 3     |               |       |       |       |  |
|             |           | 25              | 12        |       | 20.40        |      | 3             |       | 12        | 6       | 20.38           | 20.49 | 20.36 | 3     |               |       |       |       |  |
|             |           | 25              | 25        |       | 20.38        |      | 3             |       | 12        | 13      | 20.44           | 20.50 | 20.39 | 3     |               |       |       |       |  |
|             | 50        | 0               |           | 20.36 |              | 3    | 25            | 0     | 20.37     | 20.40   | 20.36           | 3     |       |       |               |       |       |       |  |

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| LTE Band 26 |           |                 |           |       |       |       |               |      |           |                 |           |       |       |       |               |
|-------------|-----------|-----------------|-----------|-------|-------|-------|---------------|------|-----------|-----------------|-----------|-------|-------|-------|---------------|
| BW          | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  | 3GPP MPR (dB) | BW   | MCS Index | RB Size         | RB Offset | Low   | Mid   | High  | 3GPP MPR (dB) |
|             |           | Channel         |           | 26765 | 26865 | 26965 |               |      |           | Channel         |           | 26740 | 26865 | 26990 |               |
|             |           | Frequency (MHz) |           | 821.5 | 831.5 | 841.5 |               |      |           | Frequency (MHz) |           | 819.0 | 831.5 | 844.0 |               |
| 15M         | QPSK      | 1               | 0         | 23.51 | 23.55 | 23.63 | 0             | 10M  | QPSK      | 1               | 0         | 23.42 | 23.48 | 23.57 | 0             |
|             |           | 1               | 37        | 23.46 | 23.48 | 23.57 | 0             |      |           | 1               | 24        | 23.47 | 23.51 | 23.59 | 0             |
|             |           | 1               | 74        | 23.47 | 23.49 | 23.51 | 0             |      |           | 1               | 49        | 23.44 | 23.42 | 23.46 | 0             |
|             |           | 36              | 0         | 22.49 | 22.50 | 22.62 | 1             |      |           | 25              | 0         | 22.45 | 22.50 | 22.56 | 1             |
|             |           | 36              | 19        | 22.50 | 22.55 | 22.59 | 1             |      |           | 25              | 12        | 22.45 | 22.47 | 22.52 | 1             |
|             |           | 36              | 39        | 22.49 | 22.53 | 22.55 | 1             |      |           | 25              | 25        | 22.43 | 22.48 | 22.52 | 1             |
|             |           | 75              | 0         | 22.46 | 22.50 | 22.58 | 1             |      |           | 50              | 0         | 22.36 | 22.44 | 22.58 | 1             |
|             | 16QAM     | 1               | 0         | 22.71 | 22.78 | 22.86 | 1             |      | 16QAM     | 1               | 0         | 22.43 | 22.43 | 22.47 | 1             |
|             |           | 1               | 37        | 22.98 | 22.89 | 22.79 | 1             |      |           | 1               | 24        | 22.51 | 22.45 | 22.61 | 1             |
|             |           | 1               | 74        | 22.89 | 22.74 | 22.89 | 1             |      |           | 1               | 49        | 22.40 | 22.41 | 22.50 | 1             |
|             |           | 36              | 0         | 21.45 | 21.48 | 21.60 | 2             |      |           | 25              | 0         | 21.44 | 21.44 | 21.58 | 2             |
|             |           | 36              | 19        | 21.57 | 21.58 | 21.51 | 2             |      |           | 25              | 12        | 21.40 | 21.50 | 21.51 | 2             |
|             |           | 36              | 39        | 21.56 | 21.55 | 21.49 | 2             |      |           | 25              | 25        | 21.40 | 21.45 | 21.49 | 2             |
|             |           | 75              | 0         | 21.55 | 21.57 | 21.49 | 2             |      |           | 50              | 0         | 21.40 | 21.44 | 21.58 | 2             |
|             | 64QAM     | 1               | 0         | 21.38 | 21.46 | 21.53 | 2             |      | 64QAM     | 1               | 0         | 21.36 | 21.44 | 21.48 | 2             |
|             |           | 1               | 37        | 21.44 | 21.51 | 21.56 | 2             |      |           | 1               | 24        | 21.42 | 21.45 | 21.59 | 2             |
|             |           | 1               | 74        | 21.41 | 21.43 | 21.48 | 2             |      |           | 1               | 49        | 21.38 | 21.42 | 21.41 | 2             |
|             |           | 36              | 0         | 20.47 | 20.44 | 20.60 | 3             |      |           | 25              | 0         | 20.49 | 20.45 | 20.57 | 3             |
|             |           | 36              | 19        | 20.48 | 20.48 | 20.49 | 3             |      |           | 25              | 12        | 20.46 | 20.52 | 20.58 | 3             |
|             |           | 36              | 39        | 20.40 | 20.44 | 20.45 | 3             |      |           | 25              | 25        | 20.47 | 20.50 | 20.45 | 3             |
|             |           | 75              | 0         | 20.41 | 20.43 | 20.52 | 3             |      |           | 50              | 0         | 20.37 | 20.44 | 20.58 | 3             |
| 5M          | QPSK      | 1               | 0         | 23.35 | 23.48 | 23.46 | 0             | 3M   | QPSK      | 1               | 0         | 23.33 | 23.42 | 23.43 | 0             |
|             |           | 1               | 12        | 23.39 | 23.49 | 23.57 | 0             |      |           | 1               | 7         | 23.39 | 23.37 | 23.54 | 0             |
|             |           | 1               | 24        | 23.44 | 23.41 | 23.43 | 0             |      |           | 1               | 14        | 23.46 | 23.38 | 23.39 | 0             |
|             |           | 12              | 0         | 22.33 | 22.38 | 22.48 | 1             |      |           | 8               | 0         | 22.36 | 22.39 | 22.42 | 1             |
|             |           | 12              | 6         | 22.34 | 22.45 | 22.46 | 1             |      |           | 8               | 3         | 22.34 | 22.50 | 22.42 | 1             |
|             |           | 12              | 13        | 22.42 | 22.40 | 22.52 | 1             |      |           | 8               | 7         | 22.34 | 22.40 | 22.42 | 1             |
|             |           | 25              | 0         | 22.33 | 22.48 | 22.44 | 1             |      |           | 15              | 0         | 22.32 | 22.35 | 22.49 | 1             |
|             | 16QAM     | 1               | 0         | 22.41 | 22.41 | 22.45 | 1             |      | 16QAM     | 1               | 0         | 22.31 | 22.41 | 22.50 | 1             |
|             |           | 1               | 12        | 22.40 | 22.54 | 22.54 | 1             |      |           | 1               | 7         | 22.37 | 22.42 | 22.50 | 1             |
|             |           | 1               | 24        | 22.43 | 22.38 | 22.39 | 1             |      |           | 1               | 14        | 22.37 | 22.42 | 22.46 | 1             |
|             |           | 12              | 0         | 21.34 | 21.39 | 21.43 | 2             |      |           | 8               | 0         | 21.36 | 21.42 | 21.43 | 2             |
|             |           | 12              | 6         | 21.35 | 21.44 | 21.51 | 2             |      |           | 8               | 3         | 21.36 | 21.50 | 21.49 | 2             |
|             |           | 12              | 13        | 21.44 | 21.46 | 21.49 | 2             |      |           | 8               | 7         | 21.38 | 21.46 | 21.44 | 2             |
|             |           | 25              | 0         | 21.37 | 21.48 | 21.41 | 2             |      |           | 15              | 0         | 21.41 | 21.39 | 21.51 | 2             |
|             | 64QAM     | 1               | 0         | 21.43 | 21.46 | 21.49 | 2             |      | 64QAM     | 1               | 0         | 21.29 | 21.37 | 21.44 | 2             |
|             |           | 1               | 12        | 21.35 | 21.45 | 21.51 | 2             |      |           | 1               | 7         | 21.33 | 21.44 | 21.53 | 2             |
|             |           | 1               | 24        | 21.36 | 21.41 | 21.46 | 2             |      |           | 1               | 14        | 21.37 | 21.36 | 21.41 | 2             |
|             |           | 12              | 0         | 20.30 | 20.35 | 20.51 | 3             |      |           | 8               | 0         | 20.39 | 20.44 | 20.47 | 3             |
|             |           | 12              | 6         | 20.44 | 20.43 | 20.44 | 3             |      |           | 8               | 3         | 20.38 | 20.54 | 20.41 | 3             |
|             |           | 12              | 13        | 20.43 | 20.49 | 20.55 | 3             |      |           | 8               | 7         | 20.37 | 20.39 | 20.39 | 3             |
|             |           | 25              | 0         | 20.34 | 20.48 | 20.41 | 3             |      |           | 15              | 0         | 20.31 | 20.32 | 20.53 | 3             |
| 1.4M        | QPSK      | 1               | 0         | 23.42 | 23.42 | 23.44 | 0             | 1.4M | QPSK      | 1               | 0         | 23.42 | 23.42 | 23.44 | 0             |
|             |           | 1               | 2         | 23.38 | 23.39 | 23.51 | 0             |      |           | 1               | 2         | 23.38 | 23.39 | 23.51 | 0             |
|             |           | 1               | 5         | 23.45 | 23.38 | 23.42 | 0             |      |           | 1               | 5         | 23.45 | 23.38 | 23.42 | 0             |
|             |           | 3               | 0         | 22.46 | 22.34 | 22.46 | 0             |      |           | 3               | 0         | 22.46 | 22.34 | 22.46 | 0             |
|             |           | 3               | 1         | 22.36 | 22.52 | 22.43 | 0             |      |           | 3               | 1         | 22.36 | 22.52 | 22.43 | 0             |
|             |           | 3               | 3         | 22.35 | 22.50 | 22.49 | 0             |      |           | 3               | 3         | 22.35 | 22.50 | 22.49 | 0             |
|             |           | 6               | 0         | 22.36 | 22.44 | 22.55 | 1             |      |           | 6               | 0         | 22.36 | 22.44 | 22.55 | 1             |
|             | 16QAM     | 1               | 0         | 22.34 | 22.37 | 22.48 | 1             |      | 16QAM     | 1               | 0         | 22.34 | 22.37 | 22.48 | 1             |
|             |           | 1               | 2         | 22.37 | 22.44 | 22.49 | 1             |      |           | 1               | 2         | 22.37 | 22.44 | 22.49 | 1             |
|             |           | 1               | 5         | 22.39 | 22.38 | 22.43 | 1             |      |           | 1               | 5         | 22.39 | 22.38 | 22.43 | 1             |
|             |           | 3               | 0         | 21.37 | 21.42 | 21.52 | 1             |      |           | 3               | 0         | 21.37 | 21.42 | 21.52 | 1             |
|             |           | 3               | 1         | 21.31 | 21.44 | 21.48 | 1             |      |           | 3               | 1         | 21.31 | 21.44 | 21.48 | 1             |
|             |           | 3               | 3         | 21.42 | 21.50 | 21.44 | 1             |      |           | 3               | 3         | 21.42 | 21.50 | 21.44 | 1             |
|             |           | 6               | 0         | 21.29 | 21.45 | 21.45 | 2             |      |           | 6               | 0         | 21.29 | 21.45 | 21.45 | 2             |
|             | 64QAM     | 1               | 0         | 21.36 | 21.39 | 21.45 | 2             |      | 64QAM     | 1               | 0         | 21.36 | 21.39 | 21.45 | 2             |
|             |           | 1               | 2         | 21.32 | 21.36 | 21.57 | 2             |      |           | 1               | 2         | 21.32 | 21.36 | 21.57 | 2             |
|             |           | 1               | 5         | 21.36 | 21.36 | 21.37 | 2             |      |           | 1               | 5         | 21.36 | 21.36 | 21.37 | 2             |
|             |           | 3               | 0         | 20.37 | 20.35 | 20.47 | 2             |      |           | 3               | 0         | 20.37 | 20.35 | 20.47 | 2             |
|             |           | 3               | 1         | 20.34 | 20.43 | 20.44 | 2             |      |           | 3               | 1         | 20.34 | 20.43 | 20.44 | 2             |
|             |           | 3               | 3         | 20.35 | 20.43 | 20.41 | 2             |      |           | 3               | 3         | 20.35 | 20.43 | 20.41 | 2             |
|             |           | 6               | 0         | 20.35 | 20.37 | 20.45 | 3             |      |           | 6               | 0         | 20.35 | 20.37 | 20.45 | 3             |

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## LTE Band 41

| BW  | MCS Index | RB Size         | RB Offset       | Low       | Mid    | Mid    | Mid    | High   | 3GPP MPR (dB) | BW  | MCS Index     | RB Size         | RB Offset | Low             | Mid       | Mid    | Mid    | High   | 3GPP MPR (dB) |        |               |
|-----|-----------|-----------------|-----------------|-----------|--------|--------|--------|--------|---------------|-----|---------------|-----------------|-----------|-----------------|-----------|--------|--------|--------|---------------|--------|---------------|
|     |           | Channel         |                 | 39750     | 40185  | 40620  | 41055  | 41490  |               |     |               | Channel         |           | 39725           | 40173     | 40620  | 41068  | 41515  |               |        |               |
|     |           | Frequency (MHz) |                 | 2506.0    | 2549.5 | 2593.0 | 2636.5 | 2680.0 |               |     |               | Frequency (MHz) |           | 2503.5          | 2548.3    | 2593.0 | 2637.8 | 2682.5 |               |        |               |
| 20M | QPSK      | 1               | 0               | 22.49     | 22.32  | 22.21  | 22.24  | 22.98  | 0             | 15M | QPSK          | 1               | 0         | 22.21           | 22.44     | 22.24  | 22.21  | 22.65  | 0             |        |               |
|     |           | 1               | 50              | 22.44     | 22.17  | 22.16  | 22.19  | 22.50  | 0             |     |               | 1               | 37        | 22.13           | 22.18     | 22.08  | 22.18  | 22.38  | 0             |        |               |
|     |           | 1               | 99              | 22.48     | 22.20  | 22.19  | 22.12  | 22.50  | 0             |     |               | 1               | 74        | 22.18           | 21.87     | 21.94  | 22.03  | 22.26  | 0             |        |               |
|     |           | 50              | 0               | 21.52     | 21.25  | 21.19  | 21.18  | 21.57  | 1             |     |               | 36              | 0         | 21.19           | 21.38     | 21.26  | 21.32  | 21.49  | 1             |        |               |
|     |           | 50              | 25              | 21.45     | 21.23  | 21.16  | 21.17  | 21.54  | 1             |     |               | 36              | 19        | 21.27           | 21.14     | 21.19  | 21.29  | 21.45  | 1             |        |               |
|     |           | 50              | 50              | 21.45     | 21.18  | 21.14  | 21.12  | 21.53  | 1             |     |               | 36              | 39        | 21.28           | 21.07     | 21.21  | 21.27  | 21.39  | 1             |        |               |
|     | 100       | 0               | 21.51           | 21.19     | 21.19  | 21.15  | 22.24  | 1      | 75            |     | 0             | 21.28           | 21.21     | 21.22           | 21.30     | 21.51  | 1      |        |               |        |               |
|     | 16QAM     | 1               | 0               | 21.64     | 21.97  | 21.73  | 21.69  | 21.98  | 1             |     | 16QAM         | 1               | 0         | 21.13           | 21.45     | 21.19  | 21.20  | 21.69  | 1             |        |               |
|     |           | 1               | 50              | 21.62     | 21.63  | 21.65  | 21.63  | 21.92  | 1             |     |               | 1               | 37        | 21.12           | 21.09     | 21.07  | 21.26  | 21.48  | 1             |        |               |
|     |           | 1               | 99              | 21.36     | 21.37  | 21.52  | 21.57  | 21.81  | 1             |     |               | 1               | 74        | 21.25           | 20.90     | 21.01  | 21.06  | 21.27  | 1             |        |               |
|     |           | 50              | 0               | 20.36     | 20.58  | 20.33  | 20.37  | 20.67  | 2             |     |               | 36              | 0         | 20.19           | 20.37     | 20.26  | 20.27  | 20.50  | 2             |        |               |
|     |           | 50              | 25              | 20.23     | 20.22  | 20.29  | 20.35  | 20.63  | 2             |     |               | 36              | 19        | 20.19           | 20.08     | 20.17  | 20.24  | 20.52  | 2             |        |               |
|     |           | 50              | 50              | 20.12     | 20.12  | 20.23  | 20.32  | 20.58  | 2             |     |               | 36              | 39        | 20.33           | 20.12     | 20.21  | 20.19  | 20.44  | 2             |        |               |
|     | 100       | 0               | 20.29           | 20.31     | 20.29  | 20.34  | 20.61  | 2      | 75            |     | 0             | 20.28           | 20.25     | 20.18           | 20.29     | 20.46  | 2      |        |               |        |               |
|     | 64QAM     | 1               | 0               | 20.17     | 20.54  | 20.19  | 20.19  | 20.62  | 2             |     | 64QAM         | 1               | 0         | 20.18           | 20.48     | 20.18  | 20.22  | 20.64  | 2             |        |               |
|     |           | 1               | 50              | 20.09     | 20.10  | 20.14  | 20.26  | 20.38  | 2             |     |               | 1               | 37        | 20.11           | 20.08     | 20.15  | 20.25  | 20.43  | 2             |        |               |
|     |           | 1               | 99              | 20.24     | 20.01  | 20.02  | 20.04  | 20.22  | 2             |     |               | 1               | 74        | 20.15           | 19.83     | 19.97  | 20.07  | 20.30  | 2             |        |               |
|     |           | 50              | 0               | 19.21     | 19.34  | 19.21  | 19.27  | 19.51  | 3             |     |               | 36              | 0         | 19.27           | 19.36     | 19.17  | 19.28  | 19.57  | 3             |        |               |
|     |           | 50              | 25              | 19.24     | 19.11  | 19.22  | 19.29  | 19.44  | 3             |     |               | 36              | 19        | 19.22           | 19.16     | 19.15  | 19.24  | 19.53  | 3             |        |               |
|     |           | 50              | 50              | 19.32     | 19.03  | 19.12  | 19.28  | 19.40  | 3             |     |               | 36              | 39        | 19.28           | 19.07     | 19.20  | 19.18  | 19.40  | 3             |        |               |
|     | 100       | 0               | 19.30           | 19.27     | 19.23  | 19.23  | 19.51  | 3      | 75            |     | 0             | 19.29           | 19.24     | 19.23           | 19.27     | 19.47  | 3      |        |               |        |               |
|     | BW        | MCS Index       | RB Size         | RB Offset | Low    | Mid    | Mid    | Mid    | High          |     | 3GPP MPR (dB) | BW              | MCS Index | RB Size         | RB Offset | Low    | Mid    | Mid    | Mid           | High   | 3GPP MPR (dB) |
|     |           |                 | Channel         |           | 39700  | 40160  | 40620  | 41080  | 41540         |     |               |                 |           | Channel         |           | 39675  | 40148  | 40620  | 41093         | 41565  |               |
|     |           |                 | Frequency (MHz) |           | 2501.0 | 2547.0 | 2593.0 | 2639.0 | 2685.0        |     |               |                 |           | Frequency (MHz) |           | 2498.5 | 2545.8 | 2593.0 | 2640.3        | 2687.5 |               |
| 10M | QPSK      | 1               | 0               | 22.14     | 22.44  | 22.24  | 22.26  | 22.64  | 0             | 5M  | QPSK          | 1               | 0         | 22.07           | 22.35     | 22.18  | 22.23  | 22.70  | 0             |        |               |
|     |           | 1               | 24              | 22.09     | 22.09  | 22.12  | 22.26  | 22.41  | 0             |     |               | 1               | 12        | 22.04           | 22.07     | 22.01  | 22.15  | 22.34  | 0             |        |               |
|     |           | 1               | 49              | 22.23     | 21.81  | 21.99  | 22.10  | 22.22  | 0             |     |               | 1               | 24        | 22.14           | 21.87     | 21.97  | 22.00  | 22.21  | 0             |        |               |
|     |           | 25              | 0               | 21.20     | 21.33  | 21.18  | 21.24  | 21.58  | 1             |     |               | 12              | 0         | 21.21           | 21.32     | 21.10  | 21.21  | 21.43  | 1             |        |               |
|     |           | 25              | 12              | 21.27     | 21.11  | 21.24  | 21.24  | 21.51  | 1             |     |               | 12              | 6         | 21.24           | 21.06     | 21.13  | 21.21  | 21.43  | 1             |        |               |
|     |           | 25              | 25              | 21.29     | 21.13  | 21.21  | 21.21  | 21.40  | 1             |     |               | 12              | 13        | 21.28           | 20.99     | 21.20  | 21.24  | 21.43  | 1             |        |               |
|     | 50        | 0               | 21.28           | 21.19     | 21.25  | 21.26  | 21.56  | 1      | 25            |     | 0             | 21.29           | 21.17     | 21.12           | 21.20     | 21.56  | 1      |        |               |        |               |
|     | 16QAM     | 1               | 0               | 21.18     | 21.50  | 21.26  | 21.27  | 21.69  | 1             |     | 16QAM         | 1               | 0         | 21.06           | 21.38     | 21.21  | 21.23  | 21.66  | 1             |        |               |
|     |           | 1               | 24              | 21.11     | 21.18  | 21.10  | 21.19  | 21.44  | 1             |     |               | 1               | 12        | 21.09           | 21.07     | 21.01  | 21.13  | 21.36  | 1             |        |               |
|     |           | 1               | 49              | 21.19     | 20.85  | 21.03  | 21.04  | 21.24  | 1             |     |               | 1               | 24        | 21.08           | 20.78     | 20.98  | 20.94  | 21.25  | 1             |        |               |
|     |           | 25              | 0               | 20.26     | 20.36  | 20.18  | 20.32  | 20.51  | 2             |     |               | 12              | 0         | 20.27           | 20.33     | 20.14  | 20.24  | 20.46  | 2             |        |               |
|     |           | 25              | 12              | 20.21     | 20.15  | 20.23  | 20.29  | 20.50  | 2             |     |               | 12              | 6         | 20.18           | 20.02     | 20.11  | 20.23  | 20.42  | 2             |        |               |
|     |           | 25              | 25              | 20.26     | 20.08  | 20.22  | 20.18  | 20.39  | 2             |     |               | 12              | 13        | 20.19           | 19.99     | 20.16  | 20.24  | 20.44  | 2             |        |               |
|     | 50        | 0               | 20.26           | 20.20     | 20.20  | 20.26  | 20.56  | 2      | 25            |     | 0             | 20.29           | 20.26     | 20.11           | 20.12     | 20.56  | 2      |        |               |        |               |
|     | 64QAM     | 1               | 0               | 20.17     | 20.50  | 20.23  | 20.23  | 20.63  | 2             |     | 64QAM         | 1               | 0         | 20.09           | 20.42     | 20.17  | 20.23  | 20.66  | 2             |        |               |
|     |           | 1               | 24              | 20.19     | 20.17  | 20.11  | 20.22  | 20.48  | 2             |     |               | 1               | 12        | 20.12           | 20.00     | 20.05  | 20.16  | 20.30  | 2             |        |               |
|     |           | 1               | 49              | 20.23     | 19.81  | 20.03  | 20.07  | 20.22  | 2             |     |               | 1               | 24        | 20.13           | 19.78     | 19.95  | 19.97  | 20.31  | 2             |        |               |
|     |           | 25              | 0               | 19.21     | 19.36  | 19.25  | 19.23  | 19.51  | 3             |     |               | 12              | 0         | 19.20           | 19.31     | 19.11  | 19.30  | 19.45  | 3             |        |               |
|     |           | 25              | 12              | 19.25     | 19.09  | 19.22  | 19.25  | 19.51  | 3             |     |               | 12              | 6         | 19.20           | 19.07     | 19.14  | 19.18  | 19.37  | 3             |        |               |
|     |           | 25              | 25              | 19.28     | 19.12  | 19.22  | 19.27  | 19.49  | 3             |     |               | 12              | 13        | 19.27           | 18.99     | 19.18  | 19.19  | 19.42  | 3             |        |               |
|     | 50        | 0               | 19.24           | 19.21     | 19.21  | 19.25  | 19.48  | 3      | 25            |     | 0             | 19.21           | 19.22     | 19.18           | 19.17     | 19.53  | 3      |        |               |        |               |

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| LTE Band 66  |   |                 |           |           |         |                 |               |        |               |         |           |         |           |        |               |        |               |
|--|---|-----------------|-----------|-----------|---------|-----------------|---------------|--------|---------------|---------|-----------|---------|-----------|--------|---------------|--------|---------------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |   |                 |           |           |         |                 |               |        |               |         |           |         |           |        |               |        |               |
| BW   | MCS Index                                     | RB Size         | RB Offset | Low       | Mid     | High            | 3GPP MPR (dB) | BW     | MCS Index     | RB Size | RB Offset | Low     | Mid       | High   | 3GPP MPR (dB) |        |               |
|  |   |                 |           | Channel   | 132072  | 132322          |               |        |               |         |           | 132572  | Channel   | 132047 |               | 132322 | 132597        |
|  |   | Frequency (MHz) | 1720.0    | 1745.0    | 1770.0  | Frequency (MHz) | 1717.5        |        |               | 1745.0  | 1772.5    |         |           |        |               |        |               |
| 20M  | QPSK  | 1               | 0         | 23.93     | 23.89   | 23.85           | 0             | 15M    | QPSK          | 1       | 0         | 23.92   | 23.86     | 23.77  | 0             |        |               |
|  |   | 1               | 50        | 23.84     | 23.80   | 23.79           | 0             |        |               | 1       | 37        | 23.83   | 23.78     | 23.79  | 0             |        |               |
|  |   | 1               | 99        | 23.73     | 23.68   | 23.54           | 0             |        |               | 1       | 74        | 23.69   | 23.62     | 23.46  | 0             |        |               |
|  |   | 50              | 0         | 22.92     | 22.86   | 22.83           | 1             |        |               | 36      | 0         | 22.91   | 22.83     | 22.82  | 1             |        |               |
|  |   | 50              | 25        | 22.86     | 22.84   | 22.81           | 1             |        |               | 36      | 19        | 22.77   | 22.81     | 22.72  | 1             |        |               |
|  |   | 50              | 50        | 22.83     | 22.82   | 22.78           | 1             |        |               | 36      | 39        | 22.76   | 22.77     | 22.68  | 1             |        |               |
|  |   | 100             | 0         | 22.85     | 22.82   | 22.79           | 1             |        |               | 75      | 0         | 22.78   | 22.75     | 22.73  | 1             |        |               |
|  | 16QAM   | 1               | 0         | 23.05     | 23.23   | 23.08           | 1             |        | 16QAM         | 1       | 0         | 22.86   | 22.81     | 22.84  | 1             |        |               |
|  |   | 1               | 50        | 23.09     | 23.04   | 23.04           | 1             |        |               | 1       | 37        | 22.84   | 22.78     | 22.79  | 1             |        |               |
|  |   | 1               | 99        | 23.04     | 23.01   | 22.82           | 1             |        |               | 1       | 74        | 22.67   | 22.67     | 22.48  | 1             |        |               |
|  |   | 50              | 0         | 21.92     | 21.92   | 21.87           | 2             |        |               | 36      | 0         | 21.92   | 21.85     | 21.79  | 2             |        |               |
|  |   | 50              | 25        | 21.92     | 21.86   | 21.85           | 2             |        |               | 36      | 19        | 21.78   | 21.76     | 21.71  | 2             |        |               |
|  |   | 50              | 50        | 21.88     | 21.83   | 21.79           | 2             |        |               | 36      | 39        | 21.75   | 21.80     | 21.72  | 2             |        |               |
|  |   | 100             | 0         | 21.89     | 21.85   | 21.82           | 2             |        |               | 75      | 0         | 21.75   | 21.75     | 21.76  | 2             |        |               |
|  | 64QAM   | 1               | 0         | 21.90     | 21.84   | 21.81           | 2             |        | 64QAM         | 1       | 0         | 21.91   | 21.88     | 21.76  | 2             |        |               |
|  |   | 1               | 50        | 21.84     | 21.73   | 21.71           | 2             |        |               | 1       | 37        | 21.79   | 21.74     | 21.79  | 2             |        |               |
|  |   | 1               | 99        | 21.72     | 21.58   | 21.45           | 2             |        |               | 1       | 74        | 21.67   | 21.66     | 21.46  | 2             |        |               |
|  |   | 50              | 0         | 20.85     | 20.77   | 20.78           | 3             |        |               | 36      | 0         | 20.85   | 20.85     | 20.74  | 3             |        |               |
|  |   | 50              | 25        | 20.83     | 20.78   | 20.79           | 3             |        |               | 36      | 19        | 20.83   | 20.84     | 20.76  | 3             |        |               |
|  |   | 50              | 50        | 20.77     | 20.81   | 20.72           | 3             |        |               | 36      | 39        | 20.75   | 20.82     | 20.77  | 3             |        |               |
|  |   | 100             | 0         | 20.77     | 20.81   | 20.72           | 3             |        |               | 75      | 0         | 20.81   | 20.74     | 20.74  | 3             |        |               |
|  | EUT with Power Reduction (P-Sensor Triggered) |                 |           |           |         |                 |               |        |               |         |           |         |           |        |               |        |               |
|  | BW  | MCS Index       | RB Size   | RB Offset | Low     | Mid             | High          |        | 3GPP MPR (dB) | BW      | MCS Index | RB Size | RB Offset | Low    | Mid           | High   | 3GPP MPR (dB) |
|  |   |                 |           |           | Channel | 132072          | 132322        |        |               |         |           |         |           | 132572 | Channel       | 132047 |               |
| Frequency (MHz)                                      |   |                 | 1720.0    | 1745.0    | 1770.0  | Frequency (MHz) | 1717.5        | 1745.0 | 1772.5        |         |           |         |           |        |               |        |               |
| 20M  | QPSK  | 1               | 0         | 21.23     | 21.21   | 21.22           | -             | 15M    | QPSK          | 1       | 0         | 21.11   | 21.11     | 21.10  | -             |        |               |
|  |   | 1               | 50        | 20.90     | 20.88   | 20.89           | -             |        |               | 1       | 37        | 20.87   | 20.88     | 20.87  | -             |        |               |
|  |   | 1               | 99        | 20.84     | 20.82   | 20.83           | -             |        |               | 1       | 74        | 20.81   | 20.72     | 20.78  | -             |        |               |
|  |   | 50              | 0         | 21.04     | 21.02   | 21.03           | -             |        |               | 36      | 0         | 20.94   | 20.92     | 21.01  | -             |        |               |
|  |   | 50              | 25        | 21.00     | 20.98   | 20.99           | -             |        |               | 36      | 19        | 20.94   | 20.92     | 20.99  | -             |        |               |
|  |   | 50              | 50        | 20.88     | 20.86   | 20.87           | -             |        |               | 36      | 39        | 20.84   | 20.81     | 20.86  | -             |        |               |
|  |   | 100             | 0         | 21.03     | 21.01   | 21.02           | -             |        |               | 75      | 0         | 21.00   | 21.01     | 20.98  | -             |        |               |
|  | 16QAM   | 1               | 0         | 21.09     | 21.04   | 21.09           | -             |        | 16QAM         | 1       | 0         | 20.93   | 21.04     | 21.05  | -             |        |               |
|  |   | 1               | 50        | 20.84     | 20.87   | 20.86           | -             |        |               | 1       | 37        | 20.83   | 20.85     | 20.83  | -             |        |               |
|  |   | 1               | 99        | 20.77     | 20.81   | 20.78           | -             |        |               | 1       | 74        | 20.64   | 20.77     | 20.69  | -             |        |               |
|  |   | 50              | 0         | 20.98     | 20.99   | 21.00           | -             |        |               | 36      | 0         | 20.89   | 20.94     | 20.96  | -             |        |               |
|  |   | 50              | 25        | 20.91     | 20.95   | 20.91           | -             |        |               | 36      | 19        | 20.89   | 20.88     | 20.89  | -             |        |               |
|  |   | 50              | 50        | 20.78     | 20.76   | 20.78           | -             |        |               | 36      | 39        | 20.74   | 20.76     | 20.67  | -             |        |               |
|  |   | 100             | 0         | 20.93     | 20.97   | 20.96           | -             |        |               | 75      | 0         | 20.93   | 20.98     | 20.91  | -             |        |               |
|  | 64QAM   | 1               | 0         | 21.07     | 21.09   | 21.11           | -             |        | 64QAM         | 1       | 0         | 21.11   | 20.97     | 21.01  | -             |        |               |
|  |   | 1               | 50        | 20.90     | 20.82   | 20.85           | -             |        |               | 1       | 37        | 20.77   | 20.85     | 20.76  | -             |        |               |
|  |   | 1               | 99        | 20.80     | 20.79   | 20.74           | -             |        |               | 1       | 74        | 20.74   | 20.69     | 20.68  | -             |        |               |
|  |   | 50              | 0         | 20.95     | 20.96   | 20.97           | -             |        |               | 36      | 0         | 20.97   | 20.91     | 20.96  | -             |        |               |
|  |   | 50              | 25        | 20.95     | 20.91   | 20.98           | -             |        |               | 36      | 19        | 20.95   | 20.97     | 20.85  | -             |        |               |
|  |   | 50              | 50        | 20.82     | 20.77   | 20.83           | -             |        |               | 36      | 39        | 20.72   | 20.69     | 20.70  | -             |        |               |
|  |   | 100             | 0         | 20.96     | 20.99   | 20.97           | -             |        |               | 75      | 0         | 20.92   | 20.85     | 20.98  | -             |        |               |



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| LTE Band 66  |   |           |           |                 |         |        |               |                 |               |         |           |         |                 |        |               |        |               |
|--|---|-----------|-----------|-----------------|---------|--------|---------------|-----------------|---------------|---------|-----------|---------|-----------------|--------|---------------|--------|---------------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |   |           |           |                 |         |        |               |                 |               |         |           |         |                 |        |               |        |               |
| BW   | MCS Index                                     | RB Size   | RB Offset | Low             | Mid     | High   | 3GPP MPR (dB) | BW              | MCS Index     | RB Size | RB Offset | Low     | Mid             | High   | 3GPP MPR (dB) |        |               |
|  |   |           |           | Channel         | 132022  | 132322 |               |                 |               |         |           | 132622  | Channel         | 131997 |               | 132322 | 132647        |
|  |   |           |           | Frequency (MHz) | 1715.0  | 1745.0 |               |                 |               |         |           | 1775.0  | Frequency (MHz) | 1712.5 |               | 1745.0 | 1777.5        |
| 10M  | QPSK  | 1         | 0         | 23.81           | 23.72   | 23.73  | 0             | 5M              | QPSK          | 1       | 0         | 23.86   | 23.78           | 23.76  | 0             |        |               |
|  |   | 1         | 24        | 23.74           | 23.74   | 23.73  | 0             |                 |               | 1       | 12        | 23.70   | 23.67           | 23.74  | 0             |        |               |
|  |   | 1         | 49        | 23.70           | 23.64   | 23.44  | 0             |                 |               | 1       | 24        | 23.66   | 23.60           | 23.41  | 0             |        |               |
|  |   | 25        | 0         | 22.81           | 22.78   | 22.77  | 1             |                 |               | 12      | 0         | 22.81   | 22.78           | 22.79  | 1             |        |               |
|  |   | 25        | 12        | 22.70           | 22.77   | 22.70  | 1             |                 |               | 12      | 6         | 22.68   | 22.71           | 22.74  | 1             |        |               |
|  |   | 25        | 25        | 22.75           | 22.74   | 22.68  | 1             |                 |               | 12      | 13        | 22.70   | 22.74           | 22.65  | 1             |        |               |
|  | 16QAM   | 50        | 0         | 22.78           | 22.74   | 22.66  | 1             |                 | 25            | 0       | 22.70     | 22.71   | 22.78           | 1      |               |        |               |
|  |   | 1         | 0         | 22.83           | 22.73   | 22.70  | 1             |                 | 16QAM         | 1       | 0         | 22.84   | 22.80           | 22.82  | 1             |        |               |
|  |   | 1         | 24        | 22.76           | 22.69   | 22.70  | 1             |                 |               | 1       | 12        | 22.67   | 22.74           | 22.73  | 1             |        |               |
|  |   | 1         | 49        | 22.69           | 22.57   | 22.45  | 1             |                 |               | 1       | 24        | 22.60   | 22.63           | 22.41  | 1             |        |               |
|  |   | 25        | 0         | 21.86           | 21.76   | 21.76  | 2             |                 |               | 12      | 0         | 21.87   | 21.77           | 21.77  | 2             |        |               |
|  |   | 25        | 12        | 21.67           | 21.69   | 21.67  | 2             |                 |               | 12      | 6         | 21.68   | 21.76           | 21.75  | 2             |        |               |
|  | 25  | 25        | 21.74     | 21.72           | 21.67   | 2      | 12            |                 |               | 13      | 21.70     | 21.76   | 21.62           | 2      |               |        |               |
|  | 64QAM   | 50        | 0         | 21.78           | 21.73   | 21.66  | 2             |                 | 25            | 0       | 21.73     | 21.65   | 21.69           | 2      |               |        |               |
|  |   | 1         | 0         | 21.81           | 21.72   | 21.72  | 2             |                 | 64QAM         | 1       | 0         | 21.83   | 21.71           | 21.75  | 2             |        |               |
|  |   | 1         | 24        | 21.73           | 21.71   | 21.69  | 2             |                 |               | 1       | 12        | 21.68   | 21.65           | 21.65  | 2             |        |               |
|  |   | 1         | 49        | 21.70           | 21.61   | 21.45  | 2             |                 |               | 1       | 24        | 21.59   | 21.62           | 21.41  | 2             |        |               |
|  |   | 25        | 0         | 20.81           | 20.78   | 20.69  | 3             |                 |               | 12      | 0         | 20.82   | 20.68           | 20.74  | 3             |        |               |
|  |   | 25        | 12        | 20.75           | 20.70   | 20.73  | 3             |                 |               | 12      | 6         | 20.69   | 20.75           | 20.71  | 3             |        |               |
|  | 25  | 25        | 20.80     | 20.76           | 20.66   | 3      | 12            |                 |               | 13      | 20.69     | 20.79   | 20.62           | 3      |               |        |               |
|  | 50  | 0         | 20.74     | 20.80           | 20.68   | 3      | 25            |                 | 0             | 20.68   | 20.71     | 20.73   | 3               |        |               |        |               |
|  | EUT with Power Reduction (P-Sensor Triggered) |           |           |                 |         |        |               |                 |               |         |           |         |                 |        |               |        |               |
|  | BW  | MCS Index | RB Size   | RB Offset       | Low     | Mid    | High          |                 | 3GPP MPR (dB) | BW      | MCS Index | RB Size | RB Offset       | Low    | Mid           | High   | 3GPP MPR (dB) |
|  |   |           |           |                 | Channel | 132022 | 132322        |                 |               |         |           |         |                 | 132622 | Channel       | 131997 |               |
| Frequency (MHz)                                      |   |           |           |                 | 1715.0  | 1745.0 | 1775.0        | Frequency (MHz) |               |         |           |         |                 | 1712.5 | 1745.0        | 1777.5 |               |
| 10M  | QPSK  | 1         | 0         | 20.91           | 20.97   | 21.04  | -             | 5M              | QPSK          | 1       | 0         | 20.93   | 20.92           | 20.88  | -             |        |               |
|  |   | 1         | 24        | 20.79           | 20.86   | 20.65  | -             |                 |               | 1       | 12        | 20.66   | 20.82           | 20.71  | -             |        |               |
|  |   | 1         | 49        | 20.67           | 20.68   | 20.73  | -             |                 |               | 1       | 24        | 20.70   | 20.79           | 20.61  | -             |        |               |
|  |   | 25        | 0         | 20.83           | 20.85   | 20.91  | -             |                 |               | 12      | 0         | 20.85   | 20.93           | 20.78  | -             |        |               |
|  |   | 25        | 12        | 20.76           | 20.95   | 20.77  | -             |                 |               | 12      | 6         | 20.87   | 20.89           | 20.78  | -             |        |               |
|  |   | 25        | 25        | 20.77           | 20.81   | 20.82  | -             |                 |               | 12      | 13        | 20.70   | 20.68           | 20.62  | -             |        |               |
|  | 16QAM   | 50        | 0         | 20.92           | 20.96   | 20.98  | -             |                 | 25            | 0       | 20.93     | 20.88   | 20.79           | -      |               |        |               |
|  |   | 1         | 0         | 20.88           | 20.90   | 20.96  | -             |                 | 16QAM         | 1       | 0         | 20.89   | 20.83           | 20.94  | -             |        |               |
|  |   | 1         | 24        | 20.63           | 20.68   | 20.70  | -             |                 |               | 1       | 12        | 20.60   | 20.72           | 20.61  | -             |        |               |
|  |   | 1         | 49        | 20.75           | 20.69   | 20.74  | -             |                 |               | 1       | 24        | 20.68   | 20.57           | 20.64  | -             |        |               |
|  |   | 25        | 0         | 20.98           | 20.91   | 20.84  | -             |                 |               | 12      | 0         | 20.78   | 20.94           | 20.84  | -             |        |               |
|  |   | 25        | 12        | 20.71           | 20.72   | 20.90  | -             |                 |               | 12      | 6         | 20.77   | 20.82           | 20.91  | -             |        |               |
|  | 25  | 25        | 20.73     | 20.77           | 20.77   | -      | 12            |                 |               | 13      | 20.79     | 20.59   | 20.77           | -      |               |        |               |
|  | 64QAM   | 50        | 0         | 20.87           | 20.74   | 20.95  | -             |                 | 25            | 0       | 20.85     | 20.78   | 20.84           | -      |               |        |               |
|  |   | 1         | 0         | 20.89           | 20.82   | 20.85  | -             |                 | 64QAM         | 1       | 0         | 20.94   | 21.09           | 20.95  | -             |        |               |
|  |   | 1         | 24        | 20.74           | 20.75   | 20.66  | -             |                 |               | 1       | 12        | 20.57   | 20.71           | 20.73  | -             |        |               |
|  |   | 1         | 49        | 20.68           | 20.56   | 20.57  | -             |                 |               | 1       | 24        | 20.74   | 20.55           | 20.67  | -             |        |               |
|  |   | 25        | 0         | 20.84           | 20.90   | 20.94  | -             |                 |               | 12      | 0         | 20.85   | 20.83           | 20.80  | -             |        |               |
|  |   | 25        | 12        | 20.83           | 20.82   | 20.97  | -             |                 |               | 12      | 6         | 20.80   | 20.74           | 20.83  | -             |        |               |
|  | 25  | 25        | 20.66     | 20.67           | 20.71   | -      | 12            |                 |               | 13      | 20.68     | 20.64   | 20.73           | -      |               |        |               |
|  | 50  | 0         | 20.88     | 20.89           | 20.90   | -      | 25            |                 | 0             | 20.80   | 20.73     | 20.77   | -               |        |               |        |               |

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| LTE Band 66  |           |         |           |                 |        |        |               |       |           |         |           |        |                 |        |               |        |        |
|--|-----------|---------|-----------|-----------------|--------|--------|---------------|-------|-----------|---------|-----------|--------|-----------------|--------|---------------|--------|--------|
| EUT without Power Reduction (P-Sensor NOT Triggered) |           |         |           |                 |        |        |               |       |           |         |           |        |                 |        |               |        |        |
| BW   | MCS Index | RB Size | RB Offset | Low             | Mid    | High   | 3GPP MPR (dB) | BW    | MCS Index | RB Size | RB Offset | Low    | Mid             | High   | 3GPP MPR (dB) |        |        |
|  |           |         |           | Channel         | 131987 | 132322 |               |       |           |         |           | 132657 | Channel         | 131979 |               | 132322 | 132665 |
|  |           |         |           | Frequency (MHz) | 1711.5 | 1745.5 |               |       |           |         |           | 1778.5 | Frequency (MHz) | 1710.7 |               | 1745.0 | 1779.3 |
| 3M   | QPSK      | 1       | 0         | 23.86           | 23.86  | 23.73  | 0             | 1.4M  | QPSK      | 1       | 0         | 23.75  | 23.83           | 23.77  | 0             |        |        |
|  |           | 1       | 7         | 23.82           | 23.63  | 23.65  | 0             |       |           | 1       | 2         | 23.71  | 23.68           | 23.66  | 0             |        |        |
|  |           | 1       | 14        | 23.61           | 23.56  | 23.46  | 0             |       |           | 1       | 5         | 23.68  | 23.62           | 23.44  | 0             |        |        |
|  |           | 8       | 0         | 22.80           | 22.73  | 22.76  | 1             |       |           | 3       | 0         | 22.79  | 22.77           | 22.79  | 0             |        |        |
|  |           | 8       | 3         | 22.75           | 22.71  | 22.62  | 1             |       |           | 3       | 1         | 22.78  | 22.70           | 22.68  | 0             |        |        |
|  |           | 8       | 7         | 22.77           | 22.75  | 22.78  | 1             |       |           | 3       | 3         | 22.83  | 22.64           | 22.67  | 0             |        |        |
|  | 16QAM     | 15      | 0         | 22.72           | 22.66  | 22.68  | 1             |       | 6         | 0       | 22.78     | 22.72  | 22.73           | 1      |               |        |        |
|  |           | 1       | 0         | 22.82           | 22.89  | 22.75  | 1             |       | 16QAM     | 1       | 0         | 22.80  | 22.79           | 22.84  | 1             |        |        |
|  |           | 1       | 7         | 22.77           | 22.62  | 22.68  | 1             |       |           | 1       | 2         | 22.81  | 22.71           | 22.73  | 1             |        |        |
|  |           | 1       | 14        | 22.67           | 22.60  | 22.44  | 1             |       |           | 1       | 5         | 22.65  | 22.62           | 22.50  | 1             |        |        |
|  |           | 8       | 0         | 21.79           | 21.75  | 21.71  | 2             |       |           | 3       | 0         | 21.79  | 21.75           | 21.75  | 1             |        |        |
|  |           | 8       | 3         | 21.81           | 21.75  | 21.72  | 2             |       |           | 3       | 1         | 21.73  | 21.73           | 21.68  | 1             |        |        |
|  | 8         | 7       | 21.76     | 21.78           | 21.73  | 2      | 3             |       |           | 3       | 21.80     | 21.74  | 21.74           | 1      |               |        |        |
|  | 64QAM     | 15      | 0         | 21.75           | 21.67  | 21.64  | 2             |       | 6         | 0       | 21.76     | 21.77  | 21.74           | 2      |               |        |        |
|  |           | 1       | 0         | 21.82           | 21.89  | 21.75  | 2             |       | 64QAM     | 1       | 0         | 21.73  | 21.78           | 21.84  | 2             |        |        |
|  |           | 1       | 7         | 21.81           | 21.62  | 21.60  | 2             |       |           | 1       | 2         | 21.81  | 21.68           | 21.68  | 2             |        |        |
|  |           | 1       | 14        | 21.64           | 21.58  | 21.49  | 2             |       |           | 1       | 5         | 21.63  | 21.58           | 21.48  | 2             |        |        |
|  |           | 8       | 0         | 20.73           | 20.79  | 20.73  | 3             |       |           | 3       | 0         | 20.79  | 20.76           | 20.79  | 2             |        |        |
|  |           | 8       | 3         | 20.77           | 20.68  | 20.68  | 3             |       |           | 3       | 1         | 20.75  | 20.73           | 20.71  | 2             |        |        |
|  | 8         | 7       | 20.75     | 20.72           | 20.73  | 3      | 3             |       |           | 3       | 20.79     | 20.68  | 20.74           | 2      |               |        |        |
|  | 3M        | QPSK    | 15        | 0               | 20.73  | 20.69  | 20.70         |       | 3         | 6       | 0         | 20.75  | 20.76           | 20.65  | 3             |        |        |
|  |           |         | 1         | 0               | 20.90  | 20.97  | 20.90         |       | -         | 1.4M    | QPSK      | 1      | 0               | 21.04  | 20.90         | 21.02  | -      |
|  |           |         | 1         | 7               | 20.69  | 20.84  | 20.73         |       | -         |         |           | 1      | 2               | 20.80  | 20.70         | 20.80  | -      |
|  |           |         | 1         | 14              | 20.74  | 20.71  | 20.65         |       | -         |         |           | 1      | 5               | 20.67  | 20.68         | 20.77  | -      |
| 8  |           |         | 0         | 20.92           | 20.86  | 21.00  | -             | 3     | 0         |         |           | 20.98  | 20.84           | 20.84  | -             |        |        |
| 8  |           |         | 3         | 20.85           | 20.79  | 20.83  | -             | 3     | 1         |         |           | 20.88  | 20.81           | 20.89  | -             |        |        |
| 8  |           | 7       | 20.86     | 20.81           | 20.72  | -      | 3             | 3     | 20.73     |         |           | 20.73  | 20.76           | -      |               |        |        |
| 16QAM  |           | 15      | 0         | 20.98           | 20.87  | 20.85  | -             | 6     | 0         |         | 20.98     | 20.86  | 20.92           | -      |               |        |        |
|  |           | 1       | 0         | 20.87           | 20.94  | 20.99  | -             | 16QAM | 1         |         | 0         | 20.85  | 20.89           | 20.86  | -             |        |        |
|  |           | 1       | 7         | 20.88           | 20.59  | 20.70  | -             |       | 1         |         | 2         | 20.72  | 20.67           | 20.70  | -             |        |        |
|  |           | 1       | 14        | 20.65           | 20.56  | 20.56  | -             |       | 1         |         | 5         | 20.61  | 20.59           | 20.57  | -             |        |        |
|  |           | 8       | 0         | 20.92           | 20.84  | 20.89  | -             |       | 3         |         | 0         | 20.87  | 20.81           | 20.97  | -             |        |        |
|  |           | 8       | 3         | 20.86           | 20.71  | 20.82  | -             |       | 3         |         | 1         | 20.90  | 20.82           | 20.78  | -             |        |        |
| 8  |           | 7       | 20.76     | 20.69           | 20.71  | -      | 3             |       | 3         |         | 20.81     | 20.66  | 20.74           | -      |               |        |        |
| 64QAM  |           | 15      | 0         | 20.93           | 20.84  | 20.83  | -             | 6     | 0         |         | 20.73     | 20.78  | 20.86           | -      |               |        |        |
|  |           | 1       | 0         | 20.97           | 20.91  | 20.85  | -             | 64QAM | 1         |         | 0         | 20.93  | 21.09           | 20.84  | -             |        |        |
|  |           | 1       | 7         | 20.73           | 20.79  | 20.70  | -             |       | 1         |         | 2         | 20.69  | 20.67           | 20.73  | -             |        |        |
|  |           | 1       | 14        | 20.63           | 20.57  | 20.66  | -             |       | 1         |         | 5         | 20.56  | 20.71           | 20.65  | -             |        |        |
|  |           | 8       | 0         | 20.83           | 20.84  | 20.83  | -             |       | 3         |         | 0         | 20.88  | 20.74           | 20.94  | -             |        |        |
|  |           | 8       | 3         | 20.81           | 20.90  | 20.82  | -             |       | 3         |         | 1         | 20.85  | 20.67           | 20.77  | -             |        |        |
| 8  |           | 7       | 20.66     | 20.84           | 20.78  | -      | 3             |       | 3         |         | 20.76     | 20.57  | 20.63           | -      |               |        |        |
| 64QAM  |           | 15      | 0         | 20.91           | 20.81  | 20.79  | -             | 6     | 0         |         | 20.86     | 20.84  | 20.83           | -      |               |        |        |

# FCC SAR Test Report

## <WLAN 2.4G>

| Mode           | Channel | Frequency (MHz) | Average Power (Ant-0) | Average Power (Ant-1) | Average Power (Ant-0 + Ant-1) |
|----------------|---------|-----------------|-----------------------|-----------------------|-------------------------------|
| 802.11b        | 1       | 2412            | 17.98                 | 14.96                 | N/A                           |
|                | 6       | 2437            | 17.92                 | 14.93                 | N/A                           |
|                | 11      | 2462            | 17.93                 | 14.95                 | N/A                           |
| 802.11n (HT20) | 1       | 2412            | -                     | -                     | 18.48                         |
|                | 6       | 2437            | -                     | -                     | 18.44                         |
|                | 11      | 2462            | -                     | -                     | 18.45                         |

## <WLAN 5.3G>

| Mode           | Channel | Frequency (MHz) | Average Power (Ant-0) | Average Power (Ant-1) | Average Power (Ant-0 + Ant-1) |
|----------------|---------|-----------------|-----------------------|-----------------------|-------------------------------|
| 802.11n (HT40) | 54      | 5270            | 18.93                 | 13.41                 | 15.45                         |
|                | 62      | 5310            | 18.97                 | 13.49                 | 15.46                         |

## <WLAN 5.6G>

| Mode           | Channel | Frequency (MHz) | Average Power (Ant-0) | Average Power (Ant-1) | Average Power (Ant-0 + Ant-1) |
|----------------|---------|-----------------|-----------------------|-----------------------|-------------------------------|
| 802.11n (HT40) | 102     | 5510            | 18.45                 | 11.94                 | 15.47                         |
|                | 110     | 5550            | 18.42                 | 11.96                 | 15.45                         |
|                | 118     | 5590            | 18.41                 | 11.93                 | 15.47                         |
|                | 126     | 5630            | 18.44                 | 11.95                 | 15.44                         |
|                | 134     | 5670            | 18.42                 | 11.98                 | 15.49                         |
|                | 142     | 5710            | 18.44                 | 11.96                 | 15.48                         |

## <WLAN 5.8G>

| Mode           | Channel | Frequency (MHz) | Average Power (Ant-0) | Average Power (Ant-1) | Average Power (Ant-0 + Ant-1) |
|----------------|---------|-----------------|-----------------------|-----------------------|-------------------------------|
| 802.11n (HT40) | 151     | 5755            | 18.43                 | 11.92                 | 14.49                         |
|                | 159     | 5795            | 18.48                 | 11.95                 | 14.45                         |

## <Bluetooth>

| Mode          | Channel | Frequency (MHz) | Average Power |
|---------------|---------|-----------------|---------------|
| Bluetooth EDR | 0       | 2402            | 11.55         |
|               | 39      | 2441            | 11.38         |
|               | 78      | 2480            | 11.25         |
| LE            | 0       | 2402            | 4.86          |
|               | 19      | 2440            | 4.92          |
|               | 39      | 2480            | 4.89          |

### 4.7 SAR Testing Results

#### 4.7.1 SAR Test Reduction Considerations

##### <KDB 447498 D01, General RF Exposure Guidance>

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

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

When SAR is not measured at the maximum power level allowed for production units, the measured SAR will be scaled to the maximum tune-up tolerance limit to determine compliance. The scaling factor for the tune-up power is defined as maximum tune-up limit (mW) / measured conducted power (mW). The reported SAR would be calculated by measured SAR x tune-up power scaling factor.

The SAR has been measured with highest transmission duty factor supported by the test mode tools for WLAN and/or Bluetooth. When the transmission duty factor could not achieve 100%, the reported SAR will be scaled to 100% transmission duty factor to determine compliance at the maximum tune-up power. The scaling factor for the duty factor is defined as 100% / transmission duty cycle (%). The reported SAR would be calculated by measured SAR x tune-up power scaling factor x duty cycle scaling factor.

##### <KDB 941225 D05, SAR Evaluation Considerations for LTE Devices>

- (1) QPSK with 1 RB and 50% RB allocation

Start with the largest channel bandwidth and measure SAR, 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; 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 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 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.

- (3) Higher order modulations

SAR is required only when the highest maximum output power for the configuration in the higher order modulation is  $> 1/2$  dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is  $> 1.45$  W/kg.

- (4) Other channel bandwidth

SAR is required when the highest maximum output power of the smaller channel bandwidth is  $> 1/2$  dB higher than the equivalent channel configurations in the largest channel bandwidth configuration or the reported SAR of a configuration for the largest channel bandwidth is  $> 1.45$  W/kg.

# FCC SAR Test Report

## <Power Confirmation for SAR Test Exclusion for LTE Downlink CA>

According to KDB 941225 D05A, the uplink maximum output power below was measured with downlink CA active on the channel with highest measured maximum output power when downlink CA is inactive. The downlink SCC channel was paired with the uplink channel as normal operation. For intra-band contiguous CA, the downlink channel spacing between the component carriers was set to multiple of 300 kHz less than the nominal channel spacing per section 5.4.1A of 3GPP TS36.521. For intra-band non-contiguous CA, the downlink channel spacing between the component carriers was set to maximum separation from PCC and remain fully within the downlink transmission band. For Inter-band CA, the SCC downlink channel was set to near the middle of its transmission band.

### Power Measurements Laptop Mode for Intra-Band Contiguous Downlink CA

| CA Combination | PCC      |          |       |                |         |           |       |                | SCC1     |          |       |                | SCC2     |          |       |                | Power                         |                                  |
|----------------|----------|----------|-------|----------------|---------|-----------|-------|----------------|----------|----------|-------|----------------|----------|----------|-------|----------------|-------------------------------|----------------------------------|
|                | LTE Band | BW (MHz) | UL Ch | UL Freq. (MHz) | RB Size | RB Offset | DL Ch | DL Freq. (MHz) | LTE Band | BW (MHz) | DL Ch | DL Freq. (MHz) | LTE Band | BW (MHz) | DL Ch | DL Freq. (MHz) | Single Carrier Tx Power (dBm) | Tx Power with DL-CA Active (dBm) |
| CA_41D         | 41       | 20       | 41490 | 2680           | 1       | 0         | 41094 | 2640.4         | 41       | 20       | 41292 | 2660.2         | 41       | 20       | 41094 | 2640.4         | 22.98                         | 22.87                            |

### Power Measurements Laptop Mode for Inter-Band Contiguous Downlink CA(Two Band)

| CA Combination | PCC      |          |       |                |         |           |       |                | SCC1     |          |       |                | Power                         |                                  |
|----------------|----------|----------|-------|----------------|---------|-----------|-------|----------------|----------|----------|-------|----------------|-------------------------------|----------------------------------|
|                | LTE Band | BW (MHz) | UL Ch | UL Freq. (MHz) | RB Size | RB Offset | DL Ch | DL Freq. (MHz) | LTE Band | BW (MHz) | DL Ch | DL Freq. (MHz) | Single Carrier Tx Power (dBm) | Tx Power with DL-CA Active (dBm) |
| CA_2A-46A      | 2        | 20       | 19100 | 1900           | 1       | 0         | 1100  | 1980           | 46       | 20       | 50665 | 5537.5         | 22.48                         | 22.42                            |
| CA_4A-46A      | 4        | 20       | 20300 | 1745           | 1       | 0         | 2300  | 2145           | 46       | 20       | 50665 | 5537.5         | 23.94                         | 23.93                            |

### Power Measurements Laptop Mode for Inter-Band Contiguous Downlink CA(Three Band)

| CA Combination | PCC      |          |        |                |         |           |       |                | SCC1     |          |       |                | SCC2     |          |       |                | Power                         |                                  |
|----------------|----------|----------|--------|----------------|---------|-----------|-------|----------------|----------|----------|-------|----------------|----------|----------|-------|----------------|-------------------------------|----------------------------------|
|                | LTE Band | BW (MHz) | UL Ch  | UL Freq. (MHz) | RB Size | RB Offset | DL Ch | DL Freq. (MHz) | LTE Band | BW (MHz) | DL Ch | DL Freq. (MHz) | LTE Band | BW (MHz) | DL Ch | DL Freq. (MHz) | Single Carrier Tx Power (dBm) | Tx Power with DL-CA Active (dBm) |
| CA_2A-4A-5A    | 2        | 20       | 19100  | 1900           | 1       | 0         | 1100  | 1980           | 4        | 20       | 2175  | 2132.5         | 5        | 10       | 2525  | 881.5          | 22.48                         | 22.37                            |
| CA_2A-4A-7A    | 2        | 20       | 19100  | 1900           | 1       | 0         | 1100  | 1980           | 4        | 20       | 2175  | 2132.5         | 7        | 20       | 3100  | 2655           | 22.48                         | 22.39                            |
| CA_2A-4A-12A   | 2        | 20       | 19100  | 1900           | 1       | 0         | 1100  | 1980           | 4        | 20       | 2175  | 2132.5         | 12       | 10       | 5095  | 737.5          | 22.48                         | 22.41                            |
| CA_2A-4A-13A   | 2        | 20       | 19100  | 1900           | 1       | 0         | 1100  | 1980           | 4        | 20       | 2175  | 2132.5         | 13       | 10       | 5230  | 751            | 22.48                         | 22.46                            |
| CA_2A-4A-29A   | 2        | 20       | 19100  | 1900           | 1       | 0         | 1100  | 1980           | 4        | 20       | 2175  | 2132.5         | 29       | 10       | 9715  | 722.5          | 22.48                         | 22.35                            |
| CA_2A-12A-30A  | 2        | 20       | 19100  | 1900           | 1       | 0         | 1100  | 1980           | 12       | 10       | 5095  | 737.5          | 30       | 10       | 9820  | 2355           | 22.48                         | 22.39                            |
| CA_2A-29A-30A  | 2        | 20       | 19100  | 1900           | 1       | 0         | 1100  | 1980           | 29       | 10       | 9715  | 722.5          | 30       | 10       | 9820  | 2355           | 22.48                         | 22.39                            |
| CA_2A-13A-66A  | 2        | 20       | 19100  | 1900           | 1       | 0         | 1100  | 1980           | 13       | 10       | 5230  | 751            | 66       | 20       | 66886 | 2155           | 22.48                         | 22.37                            |
| CA_4A-5A-30A   | 4        | 20       | 20300  | 1745           | 1       | 0         | 2300  | 2145           | 5        | 10       | 2525  | 881.5          | 30       | 10       | 9820  | 2355           | 23.94                         | 23.91                            |
| CA_4A-7A-12A   | 4        | 20       | 20300  | 1745           | 1       | 0         | 2300  | 2145           | 7        | 20       | 3100  | 2655           | 12       | 10       | 5095  | 737.5          | 23.94                         | 23.89                            |
| CA_4A-12A-30A  | 4        | 20       | 20300  | 1745           | 1       | 0         | 2300  | 2145           | 12       | 10       | 5095  | 737.5          | 30       | 10       | 9820  | 2355           | 23.94                         | 23.88                            |
| CA_4A-29A-30A  | 4        | 20       | 20300  | 1745           | 1       | 0         | 2300  | 2145           | 29       | 10       | 9715  | 722.5          | 30       | 10       | 9820  | 2355           | 23.94                         | 23.92                            |
| CA_5A-30A-66A  | 4        | 10       | 20450  | 829            | 1       | 0         | 2450  | 874            | 30       | 10       | 9820  | 2355           | 66       | 20       | 66886 | 2155           | 23.53                         | 23.25                            |
| CA_12A-30A-66A | 12       | 10       | 23095  | 707.5          | 1       | 0         | 5095  | 737.5          | 30       | 10       | 9820  | 2355           | 66       | 20       | 66886 | 2155           | 23.62                         | 23.35                            |
| CA_66A-29A-30A | 66       | 20       | 132072 | 1720           | 1       | 0         | 66536 | 2120           | 29       | 10       | 9715  | 722.5          | 30       | 10       | 9820  | 2355           | 23.93                         | 23.91                            |

## Summary for SAR Test Exclusion for LTE Downlink CA

Per power confirmation results in above, the uplink maximum output power with downlink CA active remains within the specified tune-up tolerance and not more than 0.25 dB higher than the maximum output power with downlink CA inactive. According to KDB 941225 D05A, the SAR test exclusion applies to LTE downlink CA operation.

# FCC SAR Test Report

## <Power Confirmation for SAR Testing for LTE Uplink CA>

The conducted power for uplink CA active was measured on the highest reported SAR configuration for each exposure condition with both two carrier components was set to largest channel bandwidth.

| PCC                                |          |            |         |           |            |                    | SCC  |          |            |         |           |            |                    | Power                         |                                  |
|------------------------------------|----------|------------|---------|-----------|------------|--------------------|------|----------|------------|---------|-----------|------------|--------------------|-------------------------------|----------------------------------|
| Band                               | BW (MHz) | Modulation | RB Size | RB Offset | UL Channel | UL Frequency (MHz) | Band | BW (MHz) | Modulation | RB Size | RB Offset | UL Channel | UL Frequency (MHz) | Single Carrier Tx Power (dBm) | Tx Power with UL-CA Active (dBm) |
| <b>EUT without Power Reduction</b> |          |            |         |           |            |                    |      |          |            |         |           |            |                    |                               |                                  |
| 7                                  | 20       | QPSK       | 1       | 0         | 20850      | 2510.0             | 7    | 20       | QPSK       | 1       | 99        | 21048      | 2529.8             | 22.61                         | 14.28                            |
|                                    |          |            | 1       | 99        |            |                    |      |          |            |         | 1         |            |                    | 0                             |                                  |
| 7                                  | 20       | QPSK       | 1       | 0         | 21100      | 2535.0             | 7    | 20       | QPSK       | 1       | 99        | 21298      | 2554.8             | 22.74                         | 14.34                            |
|                                    |          |            | 1       | 99        |            |                    |      |          |            |         | 1         |            |                    | 0                             |                                  |
| 7                                  | 20       | QPSK       | 1       | 0         | 21152      | 2540.2             | 7    | 20       | QPSK       | 1       | 99        | 21350      | 2560.0             | 22.73                         | 14.41                            |
|                                    |          |            | 1       | 99        |            |                    |      |          |            |         | 1         |            |                    | 0                             |                                  |
| 41                                 | 20       | QPSK       | 1       | 0         | 39750      | 2506.0             | 41   | 20       | QPSK       | 1       | 99        | 39948      | 2525.8             | 22.49                         | 14.19                            |
|                                    |          |            | 1       | 99        |            |                    |      |          |            |         | 1         |            |                    | 0                             |                                  |
| 41                                 | 20       | QPSK       | 1       | 0         | 40185      | 2549.5             | 41   | 20       | QPSK       | 1       | 99        | 40383      | 2569.3             | 22.32                         | 14.32                            |
|                                    |          |            | 1       | 99        |            |                    |      |          |            |         | 1         |            |                    | 0                             |                                  |
| 41                                 | 20       | QPSK       | 1       | 0         | 40620      | 25930              | 41   | 20       | QPSK       | 1       | 99        | 40818      | 2612.8             | 22.21                         | 14.08                            |
|                                    |          |            | 1       | 99        |            |                    |      |          |            |         | 1         |            |                    | 0                             |                                  |
| 41                                 | 20       | QPSK       | 1       | 0         | 41055      | 2636.5             | 41   | 20       | QPSK       | 1       | 99        | 41253      | 2656.3             | 22.24                         | 14.06                            |
|                                    |          |            | 1       | 99        |            |                    |      |          |            |         | 1         |            |                    | 0                             |                                  |
| 41                                 | 20       | QPSK       | 1       | 0         | 41292      | 2660.2             | 41   | 20       | QPSK       | 1       | 99        | 41490      | 2680.0             | 22.98                         | 14.08                            |
|                                    |          |            | 1       | 99        |            |                    |      |          |            |         | 1         |            |                    | 0                             |                                  |
| <b>EUT with Power Reduction</b>    |          |            |         |           |            |                    |      |          |            |         |           |            |                    |                               |                                  |
| 7                                  | 20       | QPSK       | 1       | 0         | 20850      | 2510.0             | 7    | 20       | QPSK       | 1       | 99        | 21048      | 2529.8             | 20.71                         | 15.24                            |
|                                    |          |            | 1       | 99        |            |                    |      |          |            |         | 1         |            |                    | 0                             |                                  |
| 7                                  | 20       | QPSK       | 1       | 0         | 21100      | 2535.0             | 7    | 20       | QPSK       | 1       | 99        | 21298      | 2554.8             | 20.77                         | 15.23                            |
|                                    |          |            | 1       | 99        |            |                    |      |          |            |         | 1         |            |                    | 0                             |                                  |
| 7                                  | 20       | QPSK       | 1       | 0         | 21152      | 2540.2             | 7    | 20       | QPSK       | 1       | 99        | 21350      | 2560.0             | 20.62                         | 15.24                            |
|                                    |          |            | 1       | 99        |            |                    |      |          |            |         | 1         |            |                    | 0                             |                                  |

## SAR Measurements for Intra-Band Contiguous CA

The SAR testing was performed with the single carrier (uplink CA is inactive) for all test positions for each exposure condition. The LTE uplink CA active was verified with maximum output power on the highest SAR configuration of single carrier for each exposure condition. For intra-band contiguous CA, the SCC channel was set to closest available contiguous channel.

# FCC SAR Test Report

## 4.7.2 SAR Results for Body Exposure Condition

### Tablet PC Mode

| Plot No. | Band   | Mode    | Test Position | Separation Distance (mm) | Ch.                        | RB#                | RB Offset           | P-sensor | Max. Tune-up Power (dBm) | Measured Conducted Power (dBm) | Scaling Factor | Power Drift (dB) | Measured SAR-1g (W/kg) | Scaled SAR-1g (W/kg) |
|----------|--------|---------|---------------|--------------------------|----------------------------|--------------------|---------------------|----------|--------------------------|--------------------------------|----------------|------------------|------------------------|----------------------|
| 01       | LTE 7  | QPSK20M | Top Side      | 0                        | PCC : 21100<br>SCC : 21298 | PCC : 1<br>SCC : 1 | PCC : 99<br>SCC : 0 | W/       | 21.0                     | 20.37                          | 1.16           | -0.01            | 0.673                  | <b>0.78</b>          |
| 02       | LTE 41 | QPSK20M | Top Side      | 0                        | PCC : 39750<br>SCC : 39948 | PCC : 1<br>SCC : 1 | PCC : 99<br>SCC : 0 | W/O      | 23.0                     | 22.45                          | 1.14           | 0.09             | 0.430                  | <b>0.49</b>          |

**Note:** The SAR testing above was verified based on the CA band of original report.

## 4.7.3 Simultaneous Multi-band Transmission Evaluation

Since all the verified results are not worse than the results in original report, the simultaneous transmission evaluation has no effect and simultaneous SAR is not required.

**Test Engineer :** Sam Onn

## 5. Calibration of Test Equipment

| Equipment                    | Manufacturer | Model   | SN         | Cal. Date     | Cal. Interval |
|------------------------------|--------------|---------|------------|---------------|---------------|
| System Validation Dipole     | SPEAG        | D2600V2 | 1020       | Aug. 24, 2018 | 1 Year        |
| Dosimetric E-Field Probe     | SPEAG        | EX3DV4  | 3971       | Mar. 29, 2019 | 1 Year        |
| Data Acquisition Electronics | SPEAG        | DAE3    | 1431       | Mar. 25, 2019 | 1 Year        |
| Spectrum Analyzer            | R&S          | FSL6    | 102006     | Mar. 26, 2019 | 1 Year        |
| ENA Series Network Analyzer  | Agilent      | E5071C  | MY46214281 | Jun. 08, 2018 | 1 Year        |
| MXG Analog Signal Generator  | Agilent      | N5181A  | MY50143868 | Jul. 03, 2018 | 1 Year        |
| Power Meter                  | Anritsu      | ML2495A | 1218009    | Jul. 03, 2018 | 1 Year        |
| Power Sensor                 | Anritsu      | MA2411B | 1207252    | Jul. 03, 2018 | 1 Year        |
| Thermometer                  | YFE          | YF-160A | 120702365  | Aug. 07, 2018 | 1 Year        |



## 6. Measurement Uncertainty

According to KDB 865664 D01, SAR measurement uncertainty analysis is required in SAR reports only when the highest measured SAR in a frequency band is  $\geq 1.5$  W/kg for 1-g SAR, and  $\geq 3.75$  W/kg for 10-g SAR. The procedures described in IEEE Std 1528-2013 should be applied. The expanded SAR measurement uncertainty must be  $\leq 30$  %, for a confidence interval of  $k = 2$ . When the highest measured SAR within a frequency band is  $< 1.5$  W/kg for 1-g and  $< 3.75$  W/kg for 10-g, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval. Hence, the measurement uncertainty analysis is not required in this SAR report because the test result met the condition.

## 7. Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

### **Taiwan HwaYa EMC/RF/Safety/Telecom Lab:**

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**Web Site:** [www.bureauveritas-adt.com](http://www.bureauveritas-adt.com)

The road map of all our labs can be found in our web site also.

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## **Appendix A. SAR Plots of System Verification**

The plots for system verification with largest deviation for each SAR system combination are shown as follows.

## System Check\_H2600\_190525

**DUT: Dipole 2600 MHz; Type: D2600V2; SN: 1020**

Communication System: CW; Frequency: 2600 MHz; Duty Cycle: 1:1

Medium: H19T27N1\_0525 Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 37.41$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(7.48, 7.48, 7.48); Calibrated: 2019/03/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2019/03/25
- Phantom: ELI Phantom\_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

**Pin=250mW/Area Scan (81x81x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm

Maximum value of SAR (interpolated) = 23.4 W/kg

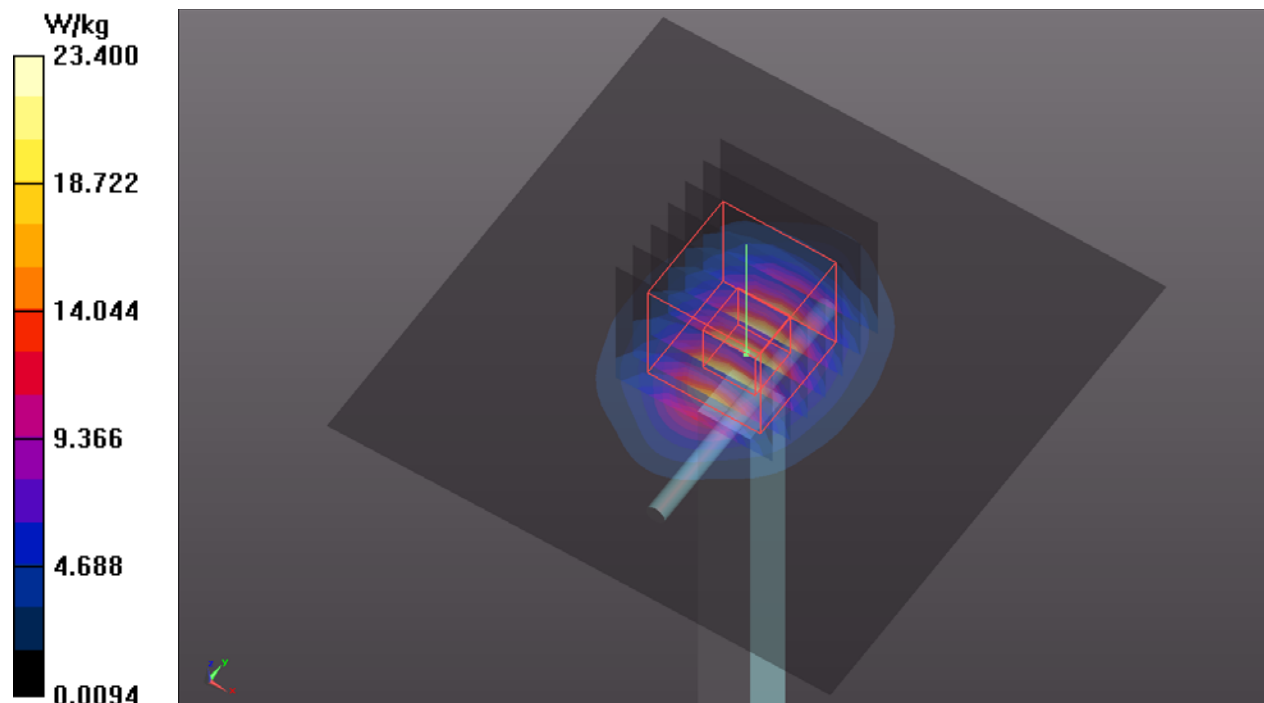
**Pin=250mW/Zoom Scan (7x7x7)/Cube 0:** Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 103.0 V/m; Power Drift = -0.01 dB

Peak SAR (extrapolated) = 29.5 W/kg

**SAR(1 g) = 13.5 W/kg; SAR(10 g) = 6.06 W/kg**

Maximum value of SAR (measured) = 23.4 W/kg





### Appendix B. SAR Plots of SAR Measurement

The SAR plots for highest measured SAR in each exposure configuration, wireless mode and frequency band combination, and measured SAR > 1.5 W/kg are shown as follows.

### P01 CA\_LTE 7\_QPSK20M\_Top Side\_0mm\_PCC Ch 21100\_1RB\_OS99\_SCC Ch 21298\_1RB\_OS0\_P-sensor\_w

**DUT: 190322C13**

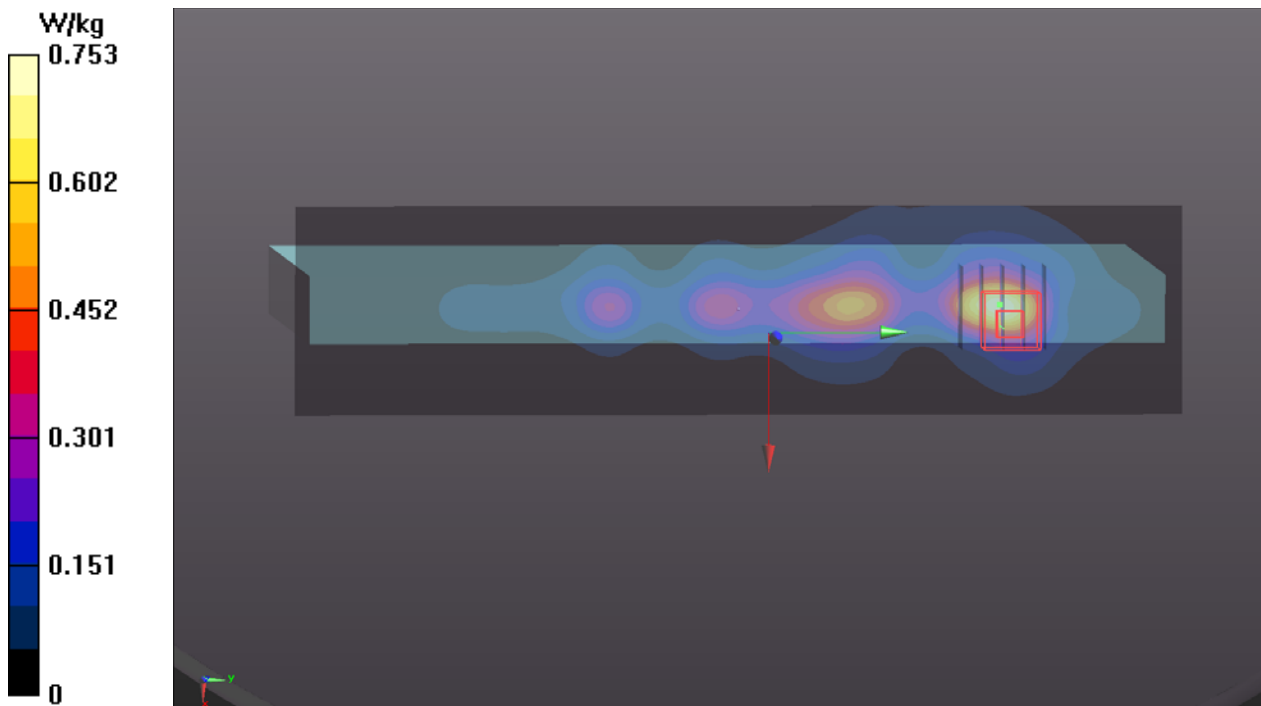
Communication System: LTE; Frequency: 2535 MHz; Duty Cycle: 1:1  
Medium: H19T27N1\_0525 Medium parameters used:  $f = 2535$  MHz;  $\sigma = 1.956$  S/m;  $\epsilon_r = 37.64$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

**DASY5 Configuration:**

- Probe: EX3DV4 - SN3971; ConvF(7.48, 7.48, 7.48); Calibrated: 2019/03/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2019/03/25
- Phantom: ELI Phantom\_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- **Area Scan (71x291x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 0.753 W/kg

- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 18.42 V/m; Power Drift = -0.01 dB  
Peak SAR (extrapolated) = 1.59 W/kg  
**SAR(1 g) = 0.673 W/kg; SAR(10 g) = 0.305 W/kg**  
Maximum value of SAR (measured) = 1.23 W/kg



# P02 CA\_LTE 41\_QPSK20M\_Top Side\_0mm\_PCC Ch 39750\_1RB\_OS99\_SCC Ch 39948\_1RB\_OS0\_P-sensor\_w\_o

**DUT: 190322C13**

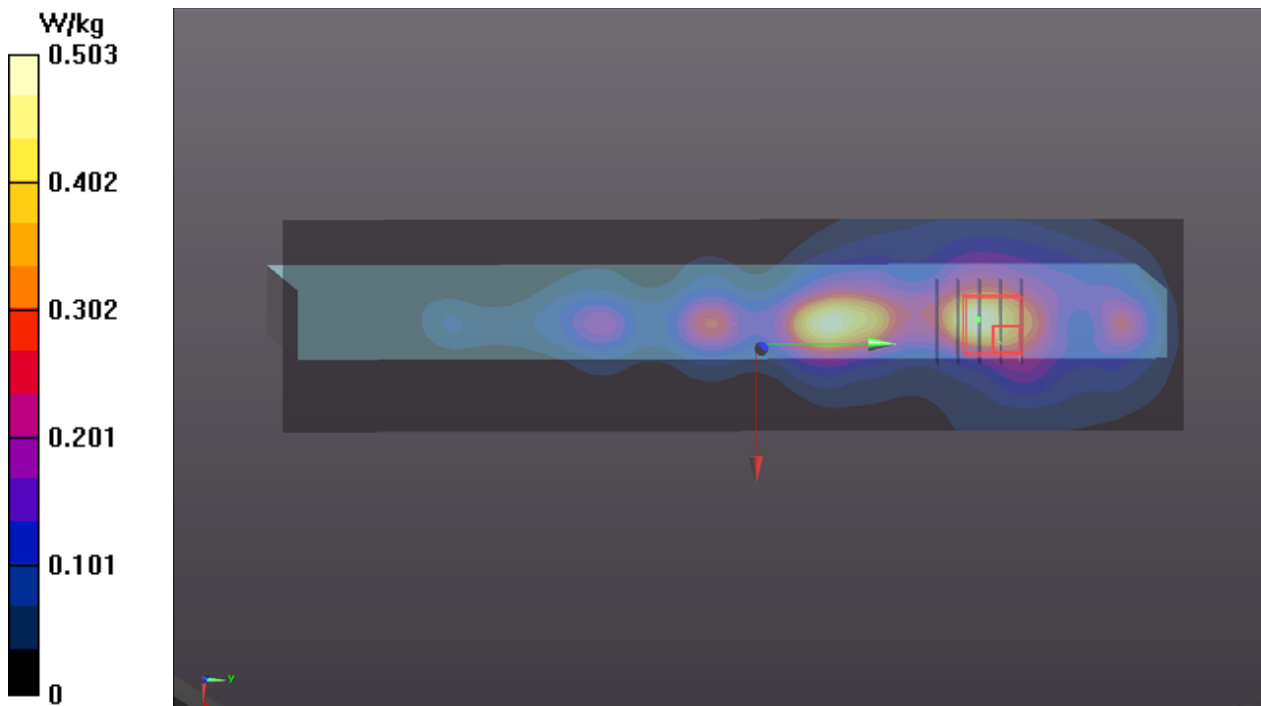
Communication System: LTE TDD CF0; Frequency: 2506 MHz; Duty Cycle: 1:1.58  
Medium: H19T27N1\_0525 Medium parameters used:  $f = 2506$  MHz;  $\sigma = 1.929$  S/m;  $\epsilon_r = 37.746$ ;  $\rho = 1000$  kg/m<sup>3</sup>  
Ambient Temperature : 23.8 °C ; Liquid Temperature : 23.5 °C

### DASY5 Configuration:

- Probe: EX3DV4 - SN3971; ConvF(7.48, 7.48, 7.48); Calibrated: 2019/03/29
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn1431; Calibrated: 2019/03/25
- Phantom: ELI Phantom\_1206; Type: QDOVA002AA;
- Measurement SW: DASY52, Version 52.10 (2); SEMCAD X Version 14.6.12 (7450)

- **Area Scan (71x291x1):** Interpolated grid: dx=1.200 mm, dy=1.200 mm  
Maximum value of SAR (interpolated) = 0.503 W/kg

- **Zoom Scan (5x5x7)/Cube 0:** Measurement grid: dx=8mm, dy=8mm, dz=5mm  
Reference Value = 16.44 V/m; Power Drift = 0.09 dB  
Peak SAR (extrapolated) = 1.04 W/kg  
**SAR(1 g) = 0.430 W/kg; SAR(10 g) = 0.177 W/kg**  
Maximum value of SAR (measured) = 0.772 W/kg





## **Appendix C. Calibration Certificate for Probe and Dipole**

The SPEAG calibration certificates are shown as follows.



Accredited by the Swiss Accreditation Service (SAS)  
The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **B.V. ADT (Auden)**

Certificate No: **D2600V2-1020\_Aug18**

## CALIBRATION CERTIFICATE

Object **D2600V2 - SN:1020**

Calibration procedure(s) **QA CAL-05.v10  
Calibration procedure for dipole validation kits above 700 MHz**

Calibration date: **August 24, 2018**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature ( $22 \pm 3$ )°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards               | ID #               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|---------------------------------|--------------------|-----------------------------------|------------------------|
| Power meter NRP                 | SN: 104778         | 04-Apr-18 (No. 217-02672/02673)   | Apr-19                 |
| Power sensor NRP-Z91            | SN: 103244         | 04-Apr-18 (No. 217-02672)         | Apr-19                 |
| Power sensor NRP-Z91            | SN: 103245         | 04-Apr-18 (No. 217-02673)         | Apr-19                 |
| Reference 20 dB Attenuator      | SN: 5058 (20k)     | 04-Apr-18 (No. 217-02682)         | Apr-19                 |
| Type-N mismatch combination     | SN: 5047.2 / 06327 | 04-Apr-18 (No. 217-02683)         | Apr-19                 |
| Reference Probe EX3DV4          | SN: 7349           | 30-Dec-17 (No. EX3-7349_Dec17)    | Dec-18                 |
| DAE4                            | SN: 601            | 26-Oct-17 (No. DAE4-601_Oct17)    | Oct-18                 |
| Secondary Standards             | ID #               | Check Date (in house)             | Scheduled Check        |
| Power meter EPM-442A            | SN: GB37480704     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A           | SN: US37292783     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| Power sensor HP 8481A           | SN: MY41092317     | 07-Oct-15 (in house check Oct-16) | In house check: Oct-18 |
| RF generator R&S SMT-06         | SN: 100972         | 15-Jun-15 (in house check Oct-16) | In house check: Oct-18 |
| Network Analyzer Agilent E8358A | SN: US41080477     | 31-Mar-14 (in house check Oct-17) | In house check: Oct-18 |

Calibrated by: **Manu Seitz**      **Manu Seitz**      **Manu Seitz**  
Name      Function      Signature  
Laboratory Technician

Approved by: **Katja Pokovic**      **Katja Pokovic**  
Technical Manager

Issued: August 24, 2018

This calibration certificate shall not be reproduced except in full without written approval of the laboratory.





Accredited by the Swiss Accreditation Service (SAS)

The Swiss Accreditation Service is one of the signatories to the EA  
Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

### Glossary:

|       |                                 |
|-------|---------------------------------|
| TSL   | tissue simulating liquid        |
| ConvF | sensitivity in TSL / NORM x,y,z |
| N/A   | not applicable or not measured  |

### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Additional Documentation:

- DASY4/5 System Handbook

### Methods Applied and Interpretation of Parameters:

- Measurement Conditions:** Further details are available from the Validation Report at the end of the certificate. All figures stated in the certificate are valid at the frequency indicated.
- Antenna Parameters with TSL:** The dipole is mounted with the spacer to position its feed point exactly below the center marking of the flat phantom section, with the arms oriented parallel to the body axis.
- Feed Point Impedance and Return Loss:** These parameters are measured with the dipole positioned under the liquid filled phantom. The impedance stated is transformed from the measurement at the SMA connector to the feed point. The Return Loss ensures low reflected power. No uncertainty required.
- Electrical Delay:** One-way delay between the SMA connector and the antenna feed point. No uncertainty required.
- SAR measured:** SAR measured at the stated antenna input power.
- SAR normalized:** SAR as measured, normalized to an input power of 1 W at the antenna connector.
- SAR for nominal TSL parameters:** The measured TSL parameters are used to calculate the nominal SAR result.

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor  $k=2$ , which for a normal distribution corresponds to a coverage probability of approximately 95%.

## Measurement Conditions

DASY system configuration, as far as not given on page 1.

|                                     |                        |             |
|-------------------------------------|------------------------|-------------|
| <b>DASY Version</b>                 | DASY5                  | V52.10.1    |
| <b>Extrapolation</b>                | Advanced Extrapolation |             |
| <b>Phantom</b>                      | Modular Flat Phantom   |             |
| <b>Distance Dipole Center - TSL</b> | 10 mm                  | with Spacer |
| <b>Zoom Scan Resolution</b>         | dx, dy, dz = 5 mm      |             |
| <b>Frequency</b>                    | 2600 MHz $\pm$ 1 MHz   |             |

## Head TSL parameters

The following parameters and calculations were applied.

|  | Temperature         | Permittivity   | Conductivity         |
|--|---------------------|----------------|----------------------|
| <b>Nominal Head TSL parameters</b>             | 22.0 °C             | 39.0           | 1.96 mho/m           |
| <b>Measured Head TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 37.1 $\pm$ 6 % | 2.03 mho/m $\pm$ 6 % |
| <b>Head TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Head TSL

| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Head TSL</b> | Condition          |  |
|---|--------------------|--|
| SAR measured  | 250 mW input power | 14.3 W/kg                                      |
| SAR for nominal Head TSL parameters                         | normalized to 1W   | <b>55.7 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Head TSL</b> | condition          |  |
|---|--------------------|--|
| SAR measured  | 250 mW input power | 6.36 W/kg                                      |
| SAR for nominal Head TSL parameters                           | normalized to 1W   | <b>25.0 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Body TSL parameters

The following parameters and calculations were applied.

|  | Temperature         | Permittivity   | Conductivity         |
|--|---------------------|----------------|----------------------|
| <b>Nominal Body TSL parameters</b>             | 22.0 °C             | 52.5           | 2.16 mho/m           |
| <b>Measured Body TSL parameters</b>            | (22.0 $\pm$ 0.2) °C | 51.3 $\pm$ 6 % | 2.20 mho/m $\pm$ 6 % |
| <b>Body TSL temperature change during test</b> | < 0.5 °C            | ----           | ----                 |

## SAR result with Body TSL

| <b>SAR averaged over 1 cm<sup>3</sup> (1 g) of Body TSL</b> | Condition          |  |
|---|--------------------|--|
| SAR measured  | 250 mW input power | 14.0 W/kg                                      |
| SAR for nominal Body TSL parameters                         | normalized to 1W   | <b>55.3 W/kg <math>\pm</math> 17.0 % (k=2)</b> |

| <b>SAR averaged over 10 cm<sup>3</sup> (10 g) of Body TSL</b> | condition          |  |
|---|--------------------|--|
| SAR measured  | 250 mW input power | 6.22 W/kg                                      |
| SAR for nominal Body TSL parameters                           | normalized to 1W   | <b>24.7 W/kg <math>\pm</math> 16.5 % (k=2)</b> |

## Appendix (Additional assessments outside the scope of SCS 0108)

### Antenna Parameters with Head TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 48.3 $\Omega$ - 5.7 j $\Omega$ |
| Return Loss                          | - 24.3 dB                      |

### Antenna Parameters with Body TSL

|                                      |                                |
|--------------------------------------|--------------------------------|
| Impedance, transformed to feed point | 44.1 $\Omega$ - 3.7 j $\Omega$ |
| Return Loss                          | - 22.6 dB                      |

### General Antenna Parameters and Design

|                                  |          |
|----------------------------------|----------|
| Electrical Delay (one direction) | 1.154 ns |
|----------------------------------|----------|

After long term use with 100W radiated power, only a slight warming of the dipole near the feedpoint can be measured.

The dipole is made of standard semirigid coaxial cable. The center conductor of the feeding line is directly connected to the second arm of the dipole. The antenna is therefore short-circuited for DC-signals. On some of the dipoles, small end caps are added to the dipole arms in order to improve matching when loaded according to the position as explained in the "Measurement Conditions" paragraph. The SAR data are not affected by this change. The overall dipole length is still according to the Standard.

No excessive force must be applied to the dipole arms, because they might bend or the soldered connections near the feedpoint may be damaged.

### Additional EUT Data

|                 |              |
|-----------------|--------------|
| Manufactured by | SPEAG        |
| Manufactured on | May 13, 2008 |

## DASY5 Validation Report for Head TSL

Date: 23.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN:1020**

Communication System: UID 0 - CW; Frequency: 2600 MHz

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.03$  S/m;  $\epsilon_r = 37.1$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.7, 7.7, 7.7) @ 2600 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (front); Type: QD 000 P50 AA; Serial: 1001
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

### Dipole Calibration for Head Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

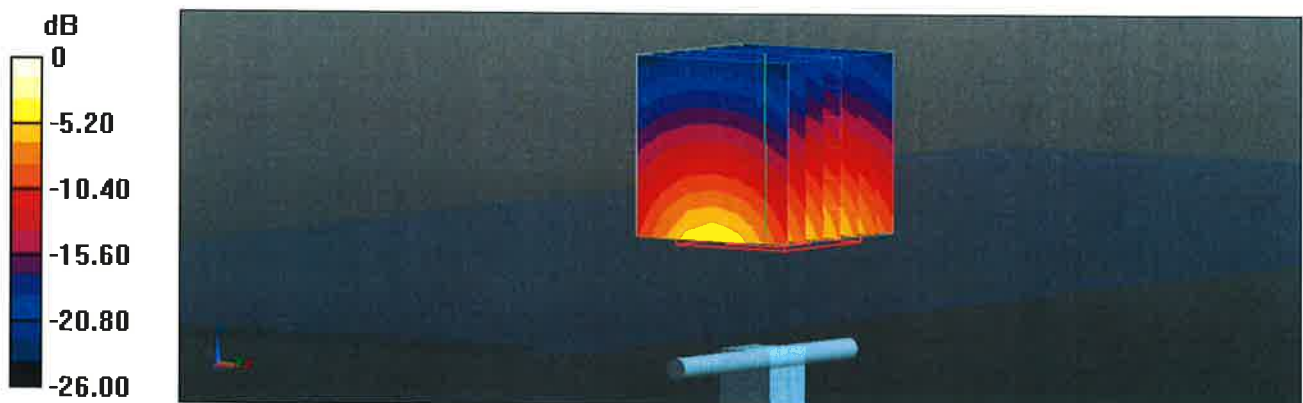
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 118.3 V/m; Power Drift = -0.04 dB

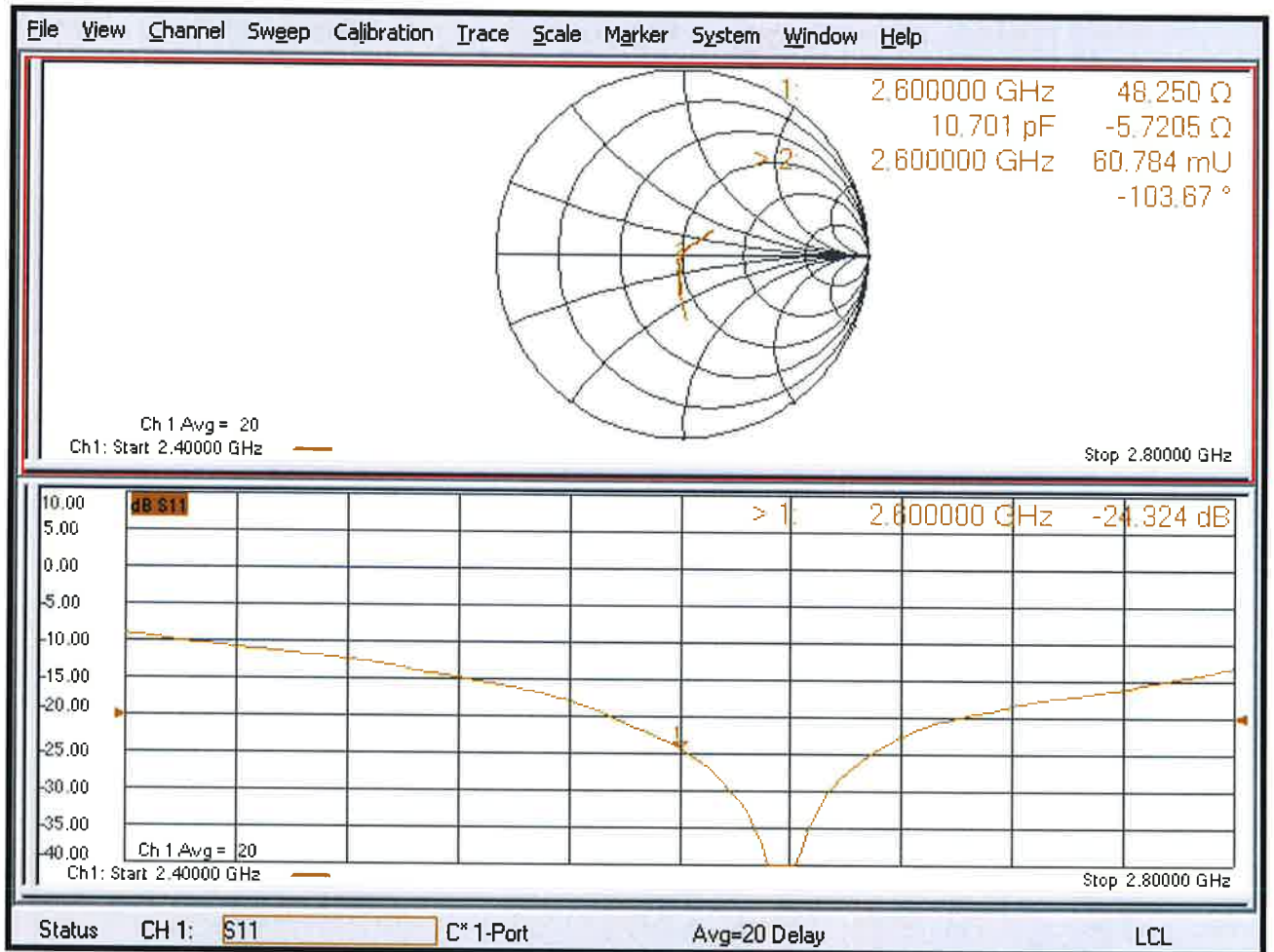
Peak SAR (extrapolated) = 28.5 W/kg

**SAR(1 g) = 14.3 W/kg; SAR(10 g) = 6.36 W/kg**

Maximum value of SAR (measured) = 23.9 W/kg



# Impedance Measurement Plot for Head TSL



## DASY5 Validation Report for Body TSL

Date: 24.08.2018

Test Laboratory: SPEAG, Zurich, Switzerland

**DUT: Dipole 2600 MHz; Type: D2600V2; Serial: D2600V2 - SN:1020**

Communication System: UID 0 - CW; Frequency: 2600 MHz

Medium parameters used:  $f = 2600$  MHz;  $\sigma = 2.2$  S/m;  $\epsilon_r = 51.3$ ;  $\rho = 1000$  kg/m<sup>3</sup>

Phantom section: Flat Section

Measurement Standard: DASY5 (IEEE/IEC/ANSI C63.19-2011)

DASY52 Configuration:

- Probe: EX3DV4 - SN7349; ConvF(7.81, 7.81, 7.81) @ 2600 MHz; Calibrated: 30.12.2017
- Sensor-Surface: 1.4mm (Mechanical Surface Detection)
- Electronics: DAE4 Sn601; Calibrated: 26.10.2017
- Phantom: Flat Phantom 5.0 (back); Type: QD 000 P50 AA; Serial: 1002
- DASY52 52.10.1(1476); SEMCAD X 14.6.11(7439)

### Dipole Calibration for Body Tissue/Pin=250 mW, d=10mm/Zoom Scan (7x7x7)/Cube 0:

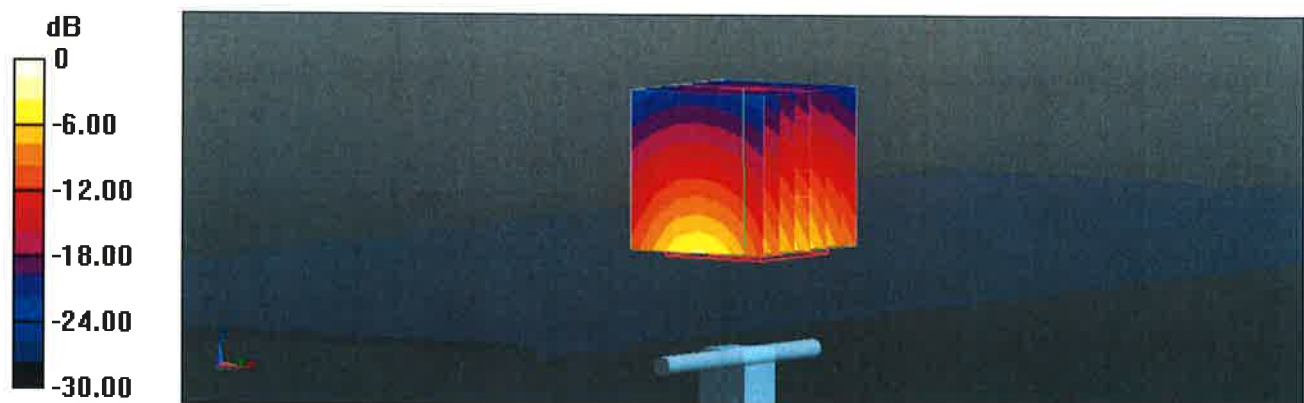
Measurement grid: dx=5mm, dy=5mm, dz=5mm

Reference Value = 109.7 V/m; Power Drift = -0.01 dB

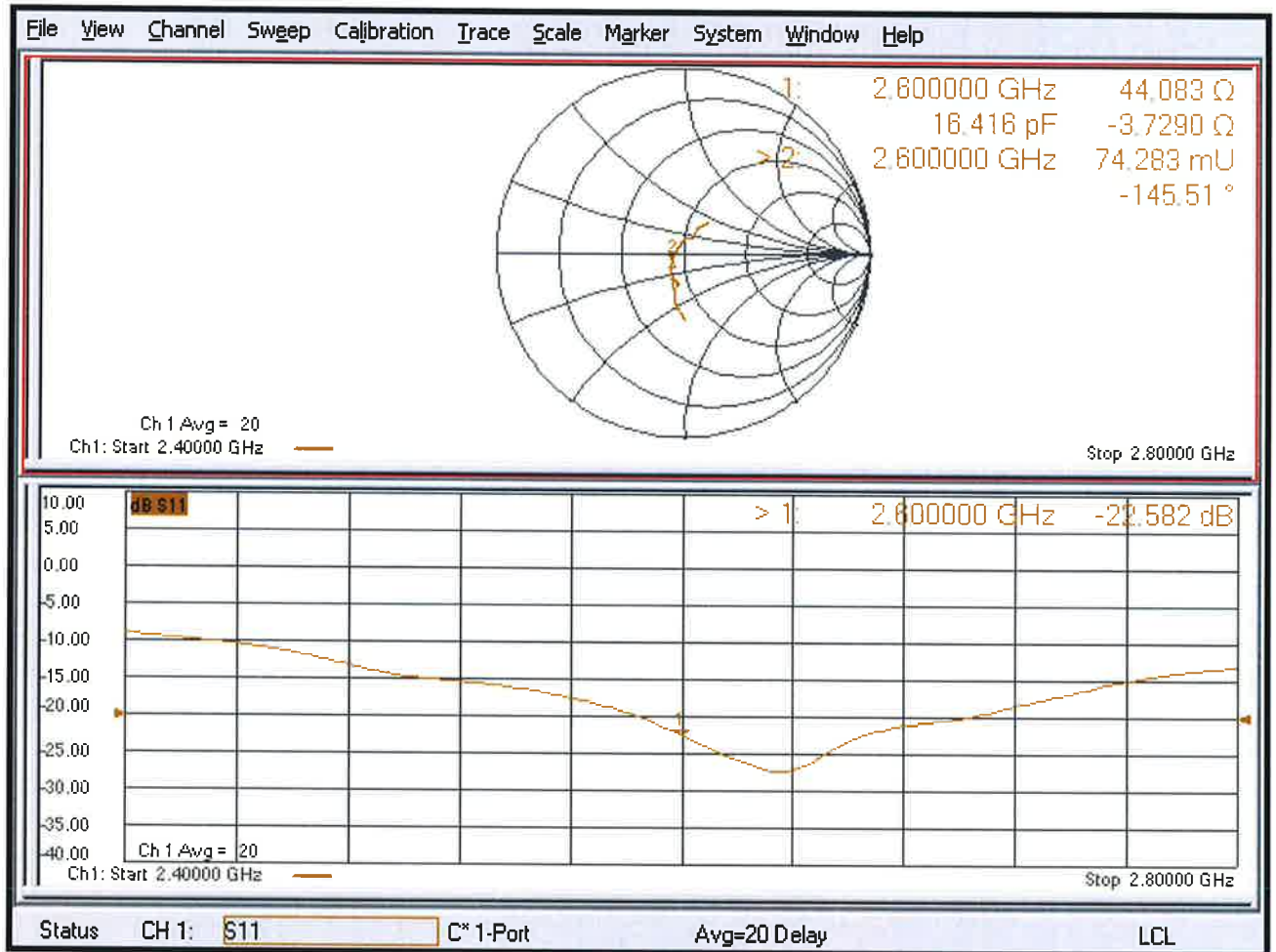
Peak SAR (extrapolated) = 29.1 W/kg

**SAR(1 g) = 14 W/kg; SAR(10 g) = 6.22 W/kg**

Maximum value of SAR (measured) = 23.8 W/kg



# Impedance Measurement Plot for Body TSL







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Multilateral Agreement for the recognition of calibration certificates

Accreditation No.: **SCS 0108**

Client **B.V. ADT (Auden)**

Certificate No: **EX3-3971\_Mar19**

## CALIBRATION CERTIFICATE

Object **EX3DV4 - SN:3971**

Calibration procedure(s) **QA CAL-01.v9, QA CAL-12.v9, QA CAL-14.v5, QA CAL-23.v5,  
QA CAL-25.v7  
Calibration procedure for dosimetric E-field probes**

Calibration date: **March 29, 2019**

This calibration certificate documents the traceability to national standards, which realize the physical units of measurements (SI).  
The measurements and the uncertainties with confidence probability are given on the following pages and are part of the certificate.

All calibrations have been conducted in the closed laboratory facility: environment temperature (22 ± 3)°C and humidity < 70%.

Calibration Equipment used (M&TE critical for calibration)

| Primary Standards          | ID               | Cal Date (Certificate No.)        | Scheduled Calibration  |
|----------------------------|------------------|-----------------------------------|------------------------|
| Power meter NRP            | SN: 104778       | 04-Apr-18 (No. 217-02672/02673)   | Apr-19                 |
| Power sensor NRP-Z91       | SN: 103244       | 04-Apr-18 (No. 217-02672)         | Apr-19                 |
| Power sensor NRP-Z91       | SN: 103245       | 04-Apr-18 (No. 217-02673)         | Apr-19                 |
| Reference 20 dB Attenuator | SN: S5277 (20x)  | 04-Apr-18 (No. 217-02682)         | Apr-19                 |
| DAE4                       | SN: 660          | 19-Dec-18 (No. DAE4-660_Dec18)    | Dec-19                 |
| Reference Probe ES3DV2     | SN: 3013         | 31-Dec-18 (No. ES3-3013_Dec18)    | Dec-19                 |
| Secondary Standards        | ID               | Check Date (in house)             | Scheduled Check        |
| Power meter E4419B         | SN: GB41293874   | 06-Apr-16 (in house check Jun-18) | In house check: Jun-20 |
| Power sensor E4412A        | SN: MY41498087   | 06-Apr-16 (in house check Jun-18) | In house check: Jun-20 |
| Power sensor E4412A        | SN: 000110210    | 06-Apr-16 (in house check Jun-18) | In house check: Jun-20 |
| RF generator HP 8648C      | SN: US3642U01700 | 04-Aug-99 (in house check Jun-18) | In house check: Jun-20 |
| Network Analyzer E8358A    | SN: US41080477   | 31-Mar-14 (in house check Oct-18) | In house check: Oct-19 |

|                |                               |  |               |
|----------------|-------------------------------|--|---------------|
| Calibrated by: | Name<br><b>Jeton Kastrati</b> | Function<br><b>Laboratory Technician</b> | Signature<br> |
| Approved by:   | Name<br><b>Katja Pokovic</b>  | Function<br><b>Technical Manager</b>     |               |

Issued: April 2, 2019

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Accreditation No.: **SCS 0108**

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### Glossary:

|                          |   |
|--------------------------|---|
| TSL                      | tissue simulating liquid  |
| NORM <sub>x,y,z</sub>    | sensitivity in free space   |
| ConvF                    | sensitivity in TSL / NORM <sub>x,y,z</sub>  |
| DCP                      | diode compression point   |
| CF                       | crest factor (1/duty_cycle) of the RF signal  |
| A, B, C, D               | modulation dependent linearization parameters   |
| Polarization $\varphi$   | $\varphi$ rotation around probe axis  |
| Polarization $\vartheta$ | $\vartheta$ rotation around an axis that is in the plane normal to probe axis (at measurement center),<br>i.e., $\vartheta = 0$ is normal to probe axis |
| Connector Angle          | information used in DASY system to align probe sensor X to the robot coordinate system  |

### Calibration is Performed According to the Following Standards:

- IEEE Std 1528-2013, "IEEE Recommended Practice for Determining the Peak Spatial-Averaged Specific Absorption Rate (SAR) in the Human Head from Wireless Communications Devices: Measurement Techniques", June 2013
- IEC 62209-1, "Measurement procedure for the assessment of Specific Absorption Rate (SAR) from hand-held and body-mounted devices used next to the ear (frequency range of 300 MHz to 6 GHz)", July 2016
- IEC 62209-2, "Procedure to determine the Specific Absorption Rate (SAR) for wireless communication devices used in close proximity to the human body (frequency range of 30 MHz to 6 GHz)", March 2010
- KDB 865664, "SAR Measurement Requirements for 100 MHz to 6 GHz"

### Methods Applied and Interpretation of Parameters:

- NORM<sub>x,y,z</sub>**: Assessed for E-field polarization  $\vartheta = 0$  ( $f \leq 900$  MHz in TEM-cell;  $f > 1800$  MHz: R22 waveguide). NORM<sub>x,y,z</sub> are only intermediate values, i.e., the uncertainties of NORM<sub>x,y,z</sub> does not affect the E<sup>2</sup>-field uncertainty inside TSL (see below ConvF).
- NORM(f)<sub>x,y,z</sub>** = NORM<sub>x,y,z</sub> \* frequency\_response (see Frequency Response Chart). This linearization is implemented in DASY4 software versions later than 4.2. The uncertainty of the frequency response is included in the stated uncertainty of ConvF.
- DCP<sub>x,y,z</sub>**: DCP are numerical linearization parameters assessed based on the data of power sweep with CW signal (no uncertainty required). DCP does not depend on frequency nor media.
- PAR**: PAR is the Peak to Average Ratio that is not calibrated but determined based on the signal characteristics
- A<sub>x,y,z</sub>; B<sub>x,y,z</sub>; C<sub>x,y,z</sub>; D<sub>x,y,z</sub>; VR<sub>x,y,z</sub>; A, B, C, D** are numerical linearization parameters assessed based on the data of power sweep for specific modulation signal. The parameters do not depend on frequency nor media. VR is the maximum calibration range expressed in RMS voltage across the diode.
- ConvF and Boundary Effect Parameters**: Assessed in flat phantom using E-field (or Temperature Transfer Standard for  $f \leq 800$  MHz) and inside waveguide using analytical field distributions based on power measurements for  $f > 800$  MHz. The same setups are used for assessment of the parameters applied for boundary compensation (alpha, depth) of which typical uncertainty values are given. These parameters are used in DASY4 software to improve probe accuracy close to the boundary. The sensitivity in TSL corresponds to NORM<sub>x,y,z</sub> \* ConvF whereby the uncertainty corresponds to that given for ConvF. A frequency dependent ConvF is used in DASY version 4.4 and higher which allows extending the validity from  $\pm 50$  MHz to  $\pm 100$  MHz.
- Spherical isotropy (3D deviation from isotropy)**: in a field of low gradients realized using a flat phantom exposed by a patch antenna.
- Sensor Offset**: The sensor offset corresponds to the offset of virtual measurement center from the probe tip (on probe axis). No tolerance required.
- Connector Angle**: The angle is assessed using the information gained by determining the NORM<sub>x</sub> (no uncertainty required).

# DASY/EASY - Parameters of Probe: EX3DV4 - SN:3971

## Basic Calibration Parameters

|   | Sensor X | Sensor Y | Sensor Z | Unc (k=2)     |
|---|----------|----------|----------|---------------|
| Norm ( $\mu\text{V}/(\text{V}/\text{m})^2$ ) <sup>A</sup> | 0.40     | 0.51     | 0.49     | $\pm 10.1 \%$ |
| DCP (mV) <sup>B</sup>                                     | 103.9    | 103.6    | 102.3    |               |

## Calibration Results for Modulation Response

| UID       | Communication System Name   |   | A<br>dB | B<br>dB $\sqrt{\mu\text{V}}$ | C     | D<br>dB | VR<br>mV | Max<br>dev.  | Max<br>Unc <sup>E</sup><br>(k=2) |
|-----------|-----------------------------|---|---------|------------------------------|-------|---------|----------|--------------|----------------------------------|
| 0         | CW                          | X | 0.00    | 0.00                         | 1.00  | 0.00    | 179.7    | $\pm 3.0 \%$ | $\pm 4.7 \%$                     |
|           |                             | Y | 0.00    | 0.00                         | 1.00  |         | 190.4    |              |                                  |
|           |                             | Z | 0.00    | 0.00                         | 1.00  |         | 194.1    |              |                                  |
| 10352-AAA | Pulse Waveform (200Hz, 10%) | X | 1.73    | 61.06                        | 8.72  | 10.00   | 60.0     | $\pm 3.0 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 15.00   | 88.66                        | 20.42 |         | 60.0     |              |                                  |
|           |                             | Z | 15.00   | 88.05                        | 20.25 |         | 60.0     |              |                                  |
| 10353-AAA | Pulse Waveform (200Hz, 20%) | X | 1.59    | 63.34                        | 8.35  | 6.99    | 80.0     | $\pm 1.8 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 15.00   | 90.67                        | 20.25 |         | 80.0     |              |                                  |
|           |                             | Z | 15.00   | 89.35                        | 19.50 |         | 80.0     |              |                                  |
| 10354-AAA | Pulse Waveform (200Hz, 40%) | X | 0.56    | 60.00                        | 5.33  | 3.98    | 95.0     | $\pm 1.1 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 15.00   | 94.62                        | 20.74 |         | 95.0     |              |                                  |
|           |                             | Z | 15.00   | 91.57                        | 18.88 |         | 95.0     |              |                                  |
| 10355-AAA | Pulse Waveform (200Hz, 60%) | X | 0.34    | 60.00                        | 3.84  | 2.22    | 120.0    | $\pm 1.1 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 15.00   | 100.11                       | 21.98 |         | 120.0    |              |                                  |
|           |                             | Z | 15.00   | 89.32                        | 16.23 |         | 120.0    |              |                                  |
| 10387-AAA | QPSK Waveform, 1 MHz        | X | 0.43    | 60.00                        | 5.18  | 0.00    | 150.0    | $\pm 3.3 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 0.79    | 62.96                        | 10.34 |         | 150.0    |              |                                  |
|           |                             | Z | 0.59    | 60.04                        | 7.77  |         | 150.0    |              |                                  |
| 10388-AAA | QPSK Waveform, 10 MHz       | X | 2.04    | 68.44                        | 15.89 | 0.00    | 150.0    | $\pm 1.2 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 2.30    | 68.73                        | 16.15 |         | 150.0    |              |                                  |
|           |                             | Z | 2.05    | 66.69                        | 14.86 |         | 150.0    |              |                                  |
| 10396-AAA | 64-QAM Waveform, 100 kHz    | X | 2.51    | 68.60                        | 17.67 | 3.01    | 150.0    | $\pm 0.7 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 3.41    | 73.18                        | 19.86 |         | 150.0    |              |                                  |
|           |                             | Z | 2.83    | 68.83                        | 17.88 |         | 150.0    |              |                                  |
| 10399-AAA | 64-QAM Waveform, 40 MHz     | X | 3.35    | 67.20                        | 15.83 | 0.00    | 150.0    | $\pm 2.3 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 3.53    | 67.36                        | 15.94 |         | 150.0    |              |                                  |
|           |                             | Z | 3.40    | 66.48                        | 15.38 |         | 150.0    |              |                                  |
| 10414-AAA | WLAN CCDF, 64-QAM, 40MHz    | X | 4.61    | 65.75                        | 15.62 | 0.00    | 150.0    | $\pm 4.2 \%$ | $\pm 9.6 \%$                     |
|           |                             | Y | 4.87    | 65.69                        | 15.58 |         | 150.0    |              |                                  |
|           |                             | Z | 4.80    | 65.29                        | 15.36 |         | 150.0    |              |                                  |

Note: For details on UID parameters see Appendix

The reported uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

<sup>A</sup> The uncertainties of Norm X,Y,Z do not affect the E<sup>2</sup>-field uncertainty inside TSL (see Pages 5 and 6).

<sup>B</sup> Numerical linearization parameter: uncertainty not required.

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3971

### Sensor Model Parameters

|   | C1<br>fF | C2<br>fF | $\alpha$<br>V <sup>-1</sup> | T1<br>ms.V <sup>-2</sup> | T2<br>ms.V <sup>-1</sup> | T3<br>ms | T4<br>V <sup>-2</sup> | T5<br>V <sup>-1</sup> | T6   |
|---|----------|----------|-----------------------------|--------------------------|--------------------------|----------|-----------------------|-----------------------|------|
| X | 32.5     | 244.72   | 36.11                       | 6.12                     | 0.82                     | 4.98     | 0.38                  | 0.38                  | 1.00 |
| Y | 48.0     | 355.29   | 35.09                       | 13.12                    | 0.33                     | 5.08     | 2.00                  | 0.18                  | 1.01 |
| Z | 46.8     | 360.76   | 37.45                       | 11.36                    | 0.53                     | 5.09     | 0.23                  | 0.54                  | 1.01 |

### Other Probe Parameters

|   |            |
|---|------------|
| Sensor Arrangement                            | Triangular |
| Connector Angle (°)                           | 74.6       |
| Mechanical Surface Detection Mode             | enabled    |
| Optical Surface Detection Mode                | disabled   |
| Probe Overall Length                          | 337 mm     |
| Probe Body Diameter                           | 10 mm      |
| Tip Length                                    | 9 mm       |
| Tip Diameter                                  | 2.5 mm     |
| Probe Tip to Sensor X Calibration Point       | 1 mm       |
| Probe Tip to Sensor Y Calibration Point       | 1 mm       |
| Probe Tip to Sensor Z Calibration Point       | 1 mm       |
| Recommended Measurement Distance from Surface | 1.4 mm     |

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3971

### Calibration Parameter Determined in Head Tissue Simulating Media

| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity (S/m) <sup>F</sup> | ConvF X | ConvF Y | ConvF Z | Alpha <sup>G</sup> | Depth <sup>G</sup> (mm) | Unc (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-----------|
| 450                  | 43.5                               | 0.87                            | 11.02   | 11.02   | 11.02   | 0.12               | 1.25                    | ± 13.3 %  |
| 750                  | 41.9                               | 0.89                            | 10.75   | 10.75   | 10.75   | 0.49               | 0.80                    | ± 12.0 %  |
| 835                  | 41.5                               | 0.90                            | 10.18   | 10.18   | 10.18   | 0.41               | 0.87                    | ± 12.0 %  |
| 900                  | 41.5                               | 0.97                            | 9.90    | 9.90    | 9.90    | 0.43               | 0.80                    | ± 12.0 %  |
| 1450                 | 40.5                               | 1.20                            | 8.76    | 8.76    | 8.76    | 0.32               | 0.80                    | ± 12.0 %  |
| 1640                 | 40.2                               | 1.31                            | 8.78    | 8.78    | 8.78    | 0.33               | 0.86                    | ± 12.0 %  |
| 1750                 | 40.1                               | 1.37                            | 8.80    | 8.80    | 8.80    | 0.28               | 0.86                    | ± 12.0 %  |
| 1900                 | 40.0                               | 1.40                            | 8.47    | 8.47    | 8.47    | 0.28               | 0.80                    | ± 12.0 %  |
| 2000                 | 40.0                               | 1.40                            | 8.25    | 8.25    | 8.25    | 0.30               | 0.80                    | ± 12.0 %  |
| 2300                 | 39.5                               | 1.67                            | 8.04    | 8.04    | 8.04    | 0.29               | 0.95                    | ± 12.0 %  |
| 2450                 | 39.2                               | 1.80                            | 7.65    | 7.65    | 7.65    | 0.30               | 0.95                    | ± 12.0 %  |
| 2600                 | 39.0                               | 1.96                            | 7.48    | 7.48    | 7.48    | 0.36               | 0.80                    | ± 12.0 %  |
| 3300                 | 38.2                               | 2.71                            | 7.30    | 7.30    | 7.30    | 0.35               | 1.25                    | ± 13.1 %  |
| 3500                 | 37.9                               | 2.91                            | 6.99    | 6.99    | 6.99    | 0.35               | 1.25                    | ± 13.1 %  |
| 3700                 | 37.7                               | 3.12                            | 6.89    | 6.89    | 6.89    | 0.35               | 1.25                    | ± 13.1 %  |
| 3900                 | 37.5                               | 3.32                            | 6.71    | 6.71    | 6.71    | 0.35               | 1.60                    | ± 13.1 %  |
| 4100                 | 37.2                               | 3.53                            | 6.21    | 6.21    | 6.21    | 0.40               | 1.60                    | ± 13.1 %  |
| 5250                 | 35.9                               | 4.71                            | 5.12    | 5.12    | 5.12    | 0.40               | 1.80                    | ± 13.1 %  |
| 5600                 | 35.5                               | 5.07                            | 4.78    | 4.78    | 4.78    | 0.40               | 1.80                    | ± 13.1 %  |
| 5750                 | 35.4                               | 5.22                            | 4.92    | 4.92    | 4.92    | 0.40               | 1.80                    | ± 13.1 %  |

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

## DASY/EASY - Parameters of Probe: EX3DV4 - SN:3971

### Calibration Parameter Determined in Body Tissue Simulating Media

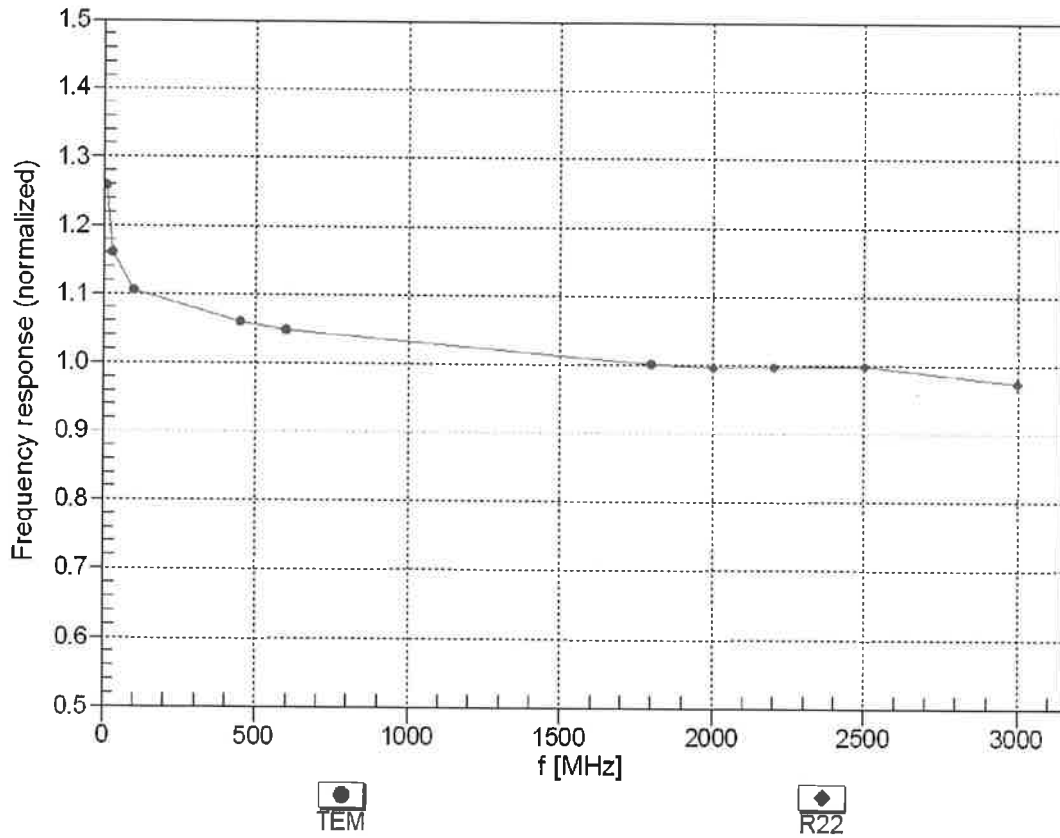
| f (MHz) <sup>C</sup> | Relative Permittivity <sup>F</sup> | Conductivity (S/m) <sup>F</sup> | ConvF X | ConvF Y | ConvF Z | Alpha <sup>G</sup> | Depth <sup>G</sup> (mm) | Unc (k=2) |
|----------------------|------------------------------------|---------------------------------|---------|---------|---------|--------------------|-------------------------|-----------|
| 450                  | 56.7                               | 0.94                            | 10.72   | 10.72   | 10.72   | 0.07               | 1.25                    | ± 13.3 %  |
| 750                  | 55.5                               | 0.96                            | 10.35   | 10.35   | 10.35   | 0.52               | 0.80                    | ± 12.0 %  |
| 835                  | 55.2                               | 0.97                            | 9.94    | 9.94    | 9.94    | 0.49               | 0.81                    | ± 12.0 %  |
| 1750                 | 53.4                               | 1.49                            | 8.48    | 8.48    | 8.48    | 0.39               | 0.80                    | ± 12.0 %  |
| 1900                 | 53.3                               | 1.52                            | 8.13    | 8.13    | 8.13    | 0.25               | 1.07                    | ± 12.0 %  |
| 2300                 | 52.9                               | 1.81                            | 7.88    | 7.88    | 7.88    | 0.44               | 0.80                    | ± 12.0 %  |
| 2450                 | 52.7                               | 1.95                            | 7.75    | 7.75    | 7.75    | 0.34               | 0.80                    | ± 12.0 %  |
| 2600                 | 52.5                               | 2.16                            | 7.55    | 7.55    | 7.55    | 0.32               | 0.80                    | ± 12.0 %  |
| 3300                 | 51.6                               | 3.08                            | 6.80    | 6.80    | 6.80    | 0.40               | 1.25                    | ± 13.1 %  |
| 3500                 | 51.3                               | 3.31                            | 6.64    | 6.64    | 6.64    | 0.40               | 1.25                    | ± 13.1 %  |
| 3700                 | 51.0                               | 3.55                            | 6.47    | 6.47    | 6.47    | 0.40               | 1.25                    | ± 13.1 %  |
| 3900                 | 51.2                               | 3.78                            | 6.52    | 6.52    | 6.52    | 0.35               | 1.60                    | ± 13.1 %  |
| 4100                 | 50.5                               | 4.01                            | 6.13    | 6.13    | 6.13    | 0.35               | 1.60                    | ± 13.1 %  |
| 5250                 | 48.9                               | 5.36                            | 4.46    | 4.46    | 4.46    | 0.50               | 1.90                    | ± 13.1 %  |
| 5600                 | 48.5                               | 5.77                            | 4.05    | 4.05    | 4.05    | 0.50               | 1.90                    | ± 13.1 %  |
| 5750                 | 48.3                               | 5.94                            | 4.20    | 4.20    | 4.20    | 0.50               | 1.90                    | ± 13.1 %  |

<sup>C</sup> Frequency validity above 300 MHz of ± 100 MHz only applies for DASY v4.4 and higher (see Page 2), else it is restricted to ± 50 MHz. The uncertainty is the RSS of the ConvF uncertainty at calibration frequency and the uncertainty for the indicated frequency band. Frequency validity below 300 MHz is ± 10, 25, 40, 50 and 70 MHz for ConvF assessments at 30, 64, 128, 150 and 220 MHz respectively. Validity of ConvF assessed at 6 MHz is 4-9 MHz, and ConvF assessed at 13 MHz is 9-19 MHz. Above 5 GHz frequency validity can be extended to ± 110 MHz.

<sup>F</sup> At frequencies below 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) can be relaxed to ± 10% if liquid compensation formula is applied to measured SAR values. At frequencies above 3 GHz, the validity of tissue parameters ( $\epsilon$  and  $\sigma$ ) is restricted to ± 5%. The uncertainty is the RSS of the ConvF uncertainty for indicated target tissue parameters.

<sup>G</sup> Alpha/Depth are determined during calibration. SPEAG warrants that the remaining deviation due to the boundary effect after compensation is always less than ± 1% for frequencies below 3 GHz and below ± 2% for frequencies between 3-6 GHz at any distance larger than half the probe tip diameter from the boundary.

### Frequency Response of E-Field (TEM-Cell:ifi110 EXX, Waveguide: R22)

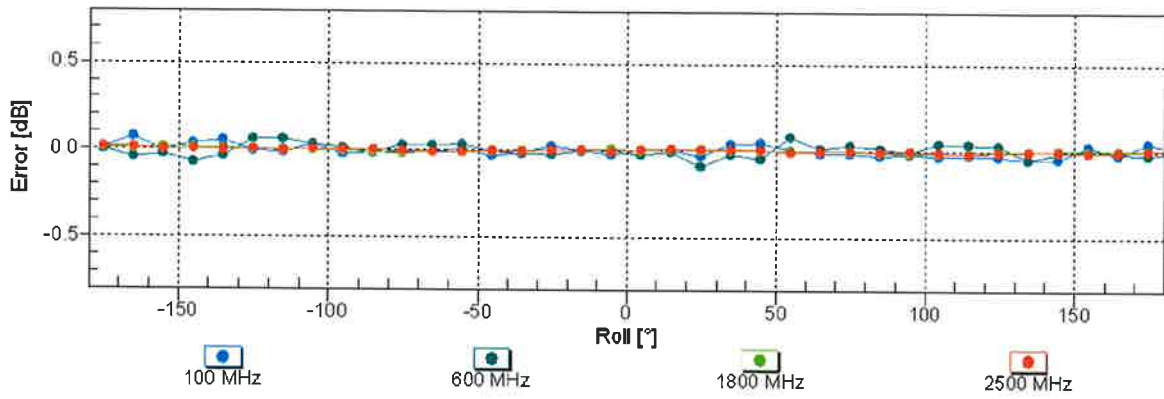
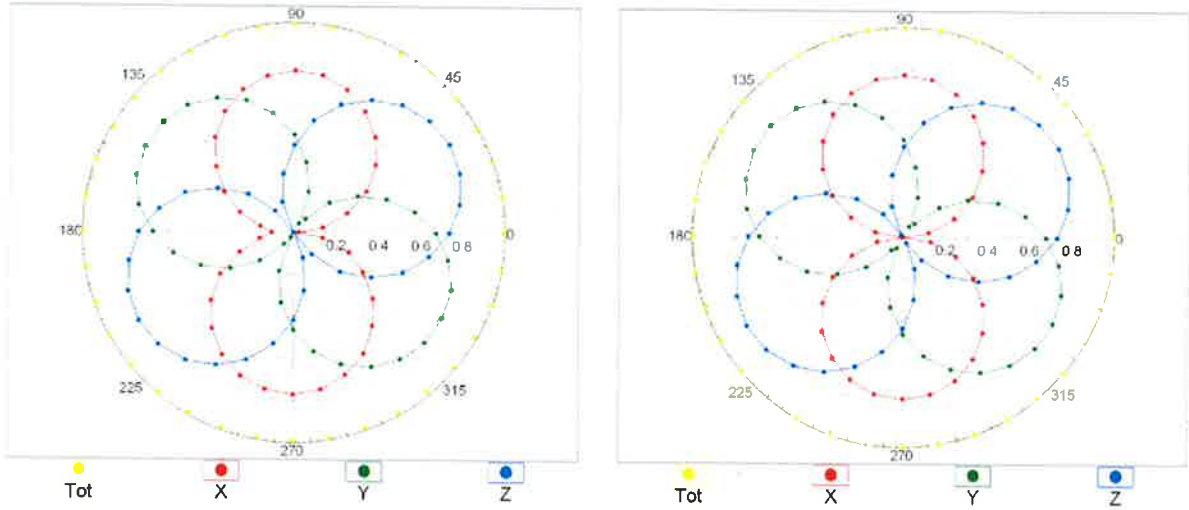


Uncertainty of Frequency Response of E-field:  $\pm 6.3\%$  (k=2)

### Receiving Pattern ( $\phi$ ), $\theta = 0^\circ$

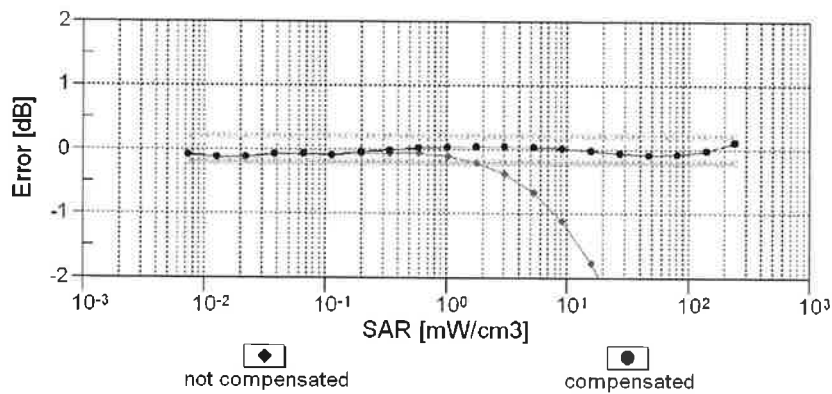
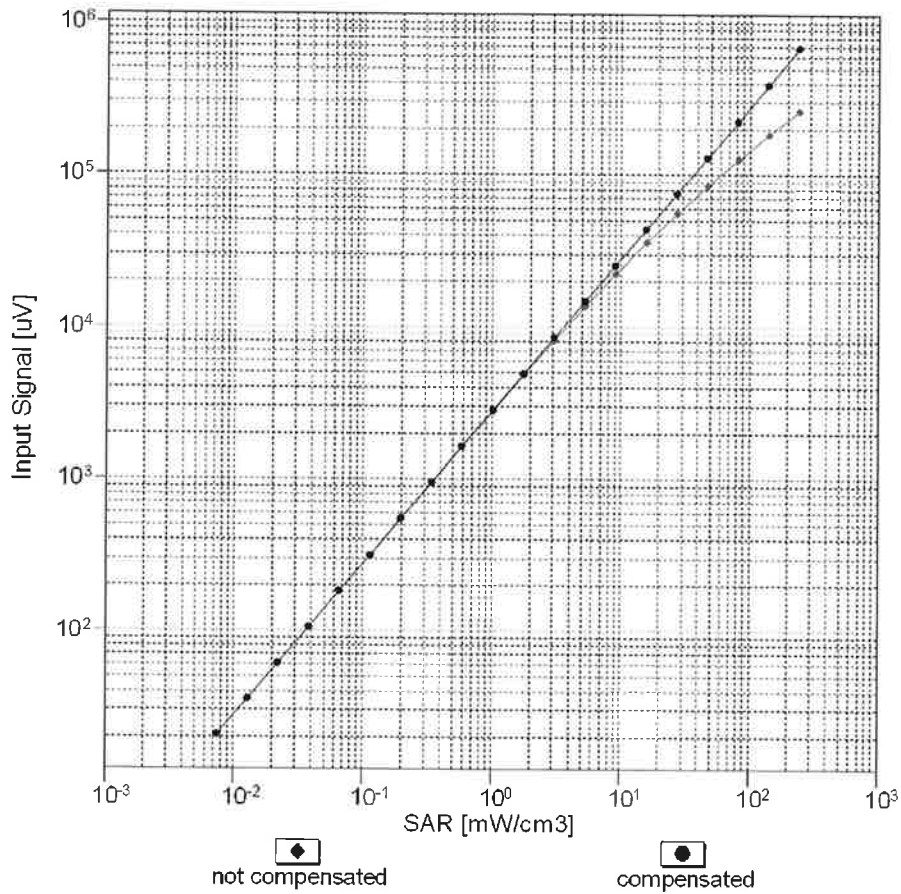
f=600 MHz,TEM

f=1800 MHz,R22



Uncertainty of Axial Isotropy Assessment:  $\pm 0.5\%$  (k=2)

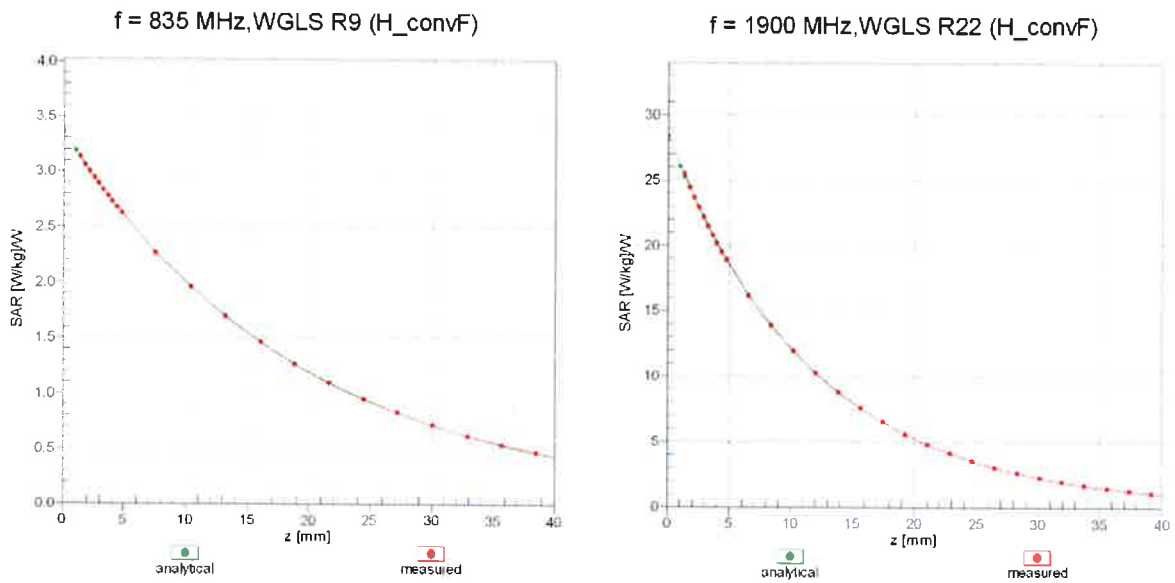
### Dynamic Range f(SAR<sub>head</sub>) (TEM cell , f<sub>eval</sub>= 1900 MHz)



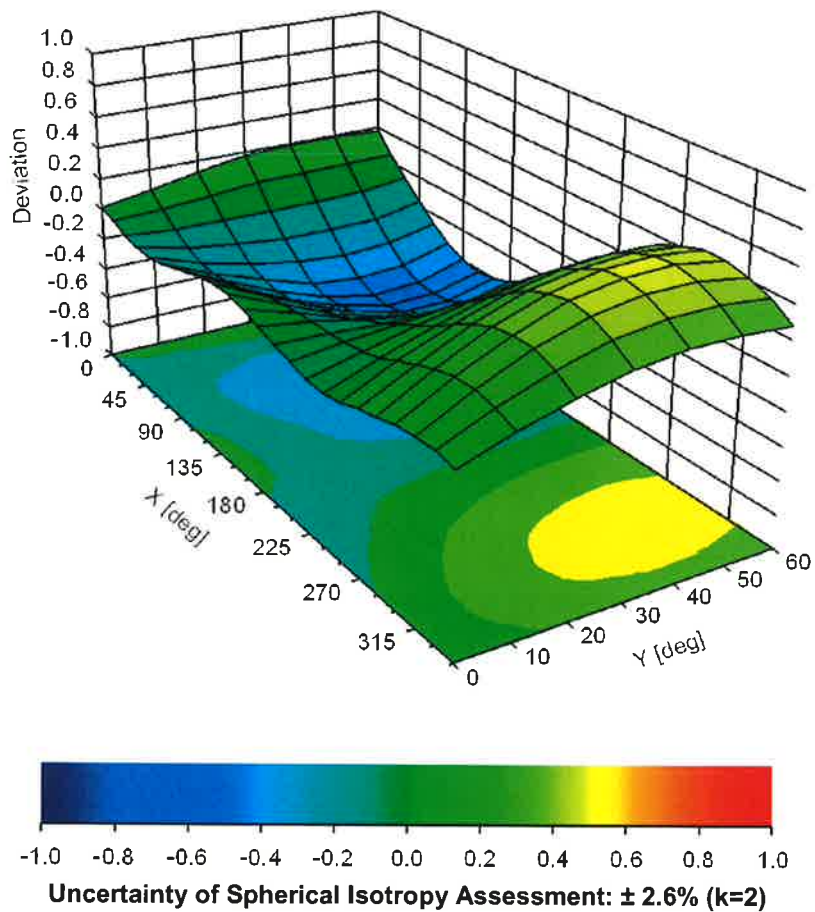
**Uncertainty of Linearity Assessment: ± 0.6% (k=2)**



## Conversion Factor Assessment



## Deviation from Isotropy in Liquid Error ( $\phi, \vartheta$ ), f = 900 MHz



**Appendix: Modulation Calibration Parameters**

| UID   | Rev | Communication System Name                           | Group     | PAR (dB) | Unc <sup>E</sup> (k=2) |
|-------|-----|---|-----------|----------|------------------------|
| 0     |     | CW  | CW        | 0.00     | ± 4.7 %                |
| 10010 | CAA | SAR Validation (Square, 100ms, 10ms)                | Test      | 10.00    | ± 9.6 %                |
| 10011 | CAB | UMTS-FDD (WCDMA)                                    | WCDMA     | 2.91     | ± 9.6 %                |
| 10012 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps)            | WLAN      | 1.87     | ± 9.6 %                |
| 10013 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps)       | WLAN      | 9.46     | ± 9.6 %                |
| 10021 | DAC | GSM-FDD (TDMA, GMSK)                                | GSM       | 9.39     | ± 9.6 %                |
| 10023 | DAC | GPRS-FDD (TDMA, GMSK, TN 0)                         | GSM       | 9.57     | ± 9.6 %                |
| 10024 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1)                       | GSM       | 6.56     | ± 9.6 %                |
| 10025 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0)                         | GSM       | 12.62    | ± 9.6 %                |
| 10026 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1)                       | GSM       | 9.55     | ± 9.6 %                |
| 10027 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2)                     | GSM       | 4.80     | ± 9.6 %                |
| 10028 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-1-2-3)                   | GSM       | 3.55     | ± 9.6 %                |
| 10029 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2)                     | GSM       | 7.78     | ± 9.6 %                |
| 10030 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH1)                 | Bluetooth | 5.30     | ± 9.6 %                |
| 10031 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH3)                 | Bluetooth | 1.87     | ± 9.6 %                |
| 10032 | CAA | IEEE 802.15.1 Bluetooth (GFSK, DH5)                 | Bluetooth | 1.16     | ± 9.6 %                |
| 10033 | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH1)           | Bluetooth | 7.74     | ± 9.6 %                |
| 10034 | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH3)           | Bluetooth | 4.53     | ± 9.6 %                |
| 10035 | CAA | IEEE 802.15.1 Bluetooth (PI/4-DQPSK, DH5)           | Bluetooth | 3.83     | ± 9.6 %                |
| 10036 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH1)               | Bluetooth | 8.01     | ± 9.6 %                |
| 10037 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH3)               | Bluetooth | 4.77     | ± 9.6 %                |
| 10038 | CAA | IEEE 802.15.1 Bluetooth (8-DPSK, DH5)               | Bluetooth | 4.10     | ± 9.6 %                |
| 10039 | CAB | CDMA2000 (1xRTT, RC1)                               | CDMA2000  | 4.57     | ± 9.6 %                |
| 10042 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Halfrate) | AMPS      | 7.78     | ± 9.6 %                |
| 10044 | CAA | IS-91/EIA/TIA-553 FDD (FDMA, FM)                    | AMPS      | 0.00     | ± 9.6 %                |
| 10048 | CAA | DECT (TDD, TDMA/FDM, GFSK, Full Slot, 24)           | DECT      | 13.80    | ± 9.6 %                |
| 10049 | CAA | DECT (TDD, TDMA/FDM, GFSK, Double Slot, 12)         | DECT      | 10.79    | ± 9.6 %                |
| 10056 | CAA | UMTS-TDD (TD-SCDMA, 1.28 Mcps)                      | TD-SCDMA  | 11.01    | ± 9.6 %                |
| 10058 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-1-2-3)                   | GSM       | 6.52     | ± 9.6 %                |
| 10059 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps)            | WLAN      | 2.12     | ± 9.6 %                |
| 10060 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps)          | WLAN      | 2.83     | ± 9.6 %                |
| 10061 | CAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps)           | WLAN      | 3.60     | ± 9.6 %                |
| 10062 | CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps)            | WLAN      | 8.68     | ± 9.6 %                |
| 10063 | CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps)            | WLAN      | 8.63     | ± 9.6 %                |
| 10064 | CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps)           | WLAN      | 9.09     | ± 9.6 %                |
| 10065 | CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps)           | WLAN      | 9.00     | ± 9.6 %                |
| 10066 | CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps)           | WLAN      | 9.38     | ± 9.6 %                |
| 10067 | CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps)           | WLAN      | 10.12    | ± 9.6 %                |
| 10068 | CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps)           | WLAN      | 10.24    | ± 9.6 %                |
| 10069 | CAC | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps)           | WLAN      | 10.56    | ± 9.6 %                |
| 10071 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 9 Mbps)       | WLAN      | 9.83     | ± 9.6 %                |
| 10072 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 12 Mbps)      | WLAN      | 9.62     | ± 9.6 %                |
| 10073 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 18 Mbps)      | WLAN      | 9.94     | ± 9.6 %                |
| 10074 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 24 Mbps)      | WLAN      | 10.30    | ± 9.6 %                |
| 10075 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 36 Mbps)      | WLAN      | 10.77    | ± 9.6 %                |
| 10076 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 48 Mbps)      | WLAN      | 10.94    | ± 9.6 %                |
| 10077 | CAB | IEEE 802.11g WiFi 2.4 GHz (DSSS/OFDM, 54 Mbps)      | WLAN      | 11.00    | ± 9.6 %                |
| 10081 | CAB | CDMA2000 (1xRTT, RC3)                               | CDMA2000  | 3.97     | ± 9.6 %                |
| 10082 | CAB | IS-54 / IS-136 FDD (TDMA/FDM, PI/4-DQPSK, Fullrate) | AMPS      | 4.77     | ± 9.6 %                |
| 10090 | DAC | GPRS-FDD (TDMA, GMSK, TN 0-4)                       | GSM       | 6.56     | ± 9.6 %                |
| 10097 | CAB | UMTS-FDD (HSDPA)                                    | WCDMA     | 3.98     | ± 9.6 %                |
| 10098 | CAB | UMTS-FDD (HSUPA, Subtest 2)                         | WCDMA     | 3.98     | ± 9.6 %                |
| 10099 | DAC | EDGE-FDD (TDMA, 8PSK, TN 0-4)                       | GSM       | 9.55     | ± 9.6 %                |
| 10100 | CAE | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, QPSK)            | LTE-FDD   | 5.67     | ± 9.6 %                |
| 10101 | CAE | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)          | LTE-FDD   | 6.42     | ± 9.6 %                |
| 10102 | CAE | LTE-FDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)          | LTE-FDD   | 6.60     | ± 9.6 %                |
| 10103 | CAG | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK)            | LTE-TDD   | 9.29     | ± 9.6 %                |
| 10104 | CAG | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM)          | LTE-TDD   | 9.97     | ± 9.6 %                |
| 10105 | CAG | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM)          | LTE-TDD   | 10.01    | ± 9.6 %                |
| 10108 | CAG | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, QPSK)            | LTE-FDD   | 5.80     | ± 9.6 %                |

|       |     |  |         |       |         |
|-------|-----|--|---------|-------|---------|
| 10109 | CAG | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)     | LTE-FDD | 6.43  | ± 9.6 % |
| 10110 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, QPSK)        | LTE-FDD | 5.75  | ± 9.6 % |
| 10111 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)      | LTE-FDD | 6.44  | ± 9.6 % |
| 10112 | CAG | LTE-FDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)     | LTE-FDD | 6.59  | ± 9.6 % |
| 10113 | CAG | LTE-FDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)      | LTE-FDD | 6.62  | ± 9.6 % |
| 10114 | CAC | IEEE 802.11n (HT Greenfield, 13.5 Mbps, BPSK)  | WLAN    | 8.10  | ± 9.6 % |
| 10115 | CAC | IEEE 802.11n (HT Greenfield, 81 Mbps, 16-QAM)  | WLAN    | 8.46  | ± 9.6 % |
| 10116 | CAC | IEEE 802.11n (HT Greenfield, 135 Mbps, 64-QAM) | WLAN    | 8.15  | ± 9.6 % |
| 10117 | CAC | IEEE 802.11n (HT Mixed, 13.5 Mbps, BPSK)       | WLAN    | 8.07  | ± 9.6 % |
| 10118 | CAC | IEEE 802.11n (HT Mixed, 81 Mbps, 16-QAM)       | WLAN    | 8.59  | ± 9.6 % |
| 10119 | CAC | IEEE 802.11n (HT Mixed, 135 Mbps, 64-QAM)      | WLAN    | 8.13  | ± 9.6 % |
| 10140 | CAE | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)     | LTE-FDD | 6.49  | ± 9.6 % |
| 10141 | CAE | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)     | LTE-FDD | 6.53  | ± 9.6 % |
| 10142 | CAE | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, QPSK)        | LTE-FDD | 5.73  | ± 9.6 % |
| 10143 | CAE | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)      | LTE-FDD | 6.35  | ± 9.6 % |
| 10144 | CAE | LTE-FDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)      | LTE-FDD | 6.65  | ± 9.6 % |
| 10145 | CAF | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)      | LTE-FDD | 5.76  | ± 9.6 % |
| 10146 | CAF | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM)    | LTE-FDD | 6.41  | ± 9.6 % |
| 10147 | CAF | LTE-FDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM)    | LTE-FDD | 6.72  | ± 9.6 % |
| 10149 | CAE | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)      | LTE-FDD | 6.42  | ± 9.6 % |
| 10150 | CAE | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)      | LTE-FDD | 6.60  | ± 9.6 % |
| 10151 | CAG | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK)        | LTE-TDD | 9.28  | ± 9.6 % |
| 10152 | CAG | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM)      | LTE-TDD | 9.92  | ± 9.6 % |
| 10153 | CAG | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM)      | LTE-TDD | 10.05 | ± 9.6 % |
| 10154 | CAG | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, QPSK)        | LTE-FDD | 5.75  | ± 9.6 % |
| 10155 | CAG | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)      | LTE-FDD | 6.43  | ± 9.6 % |
| 10156 | CAG | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, QPSK)         | LTE-FDD | 5.79  | ± 9.6 % |
| 10157 | CAG | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)       | LTE-FDD | 6.49  | ± 9.6 % |
| 10158 | CAG | LTE-FDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)      | LTE-FDD | 6.62  | ± 9.6 % |
| 10159 | CAG | LTE-FDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)       | LTE-FDD | 6.56  | ± 9.6 % |
| 10160 | CAE | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, QPSK)        | LTE-FDD | 5.82  | ± 9.6 % |
| 10161 | CAE | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)      | LTE-FDD | 6.43  | ± 9.6 % |
| 10162 | CAE | LTE-FDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)      | LTE-FDD | 6.58  | ± 9.6 % |
| 10166 | CAF | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)       | LTE-FDD | 5.46  | ± 9.6 % |
| 10167 | CAF | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)     | LTE-FDD | 6.21  | ± 9.6 % |
| 10168 | CAF | LTE-FDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)     | LTE-FDD | 6.79  | ± 9.6 % |
| 10169 | CAE | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, QPSK)          | LTE-FDD | 5.73  | ± 9.6 % |
| 10170 | CAE | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)        | LTE-FDD | 6.52  | ± 9.6 % |
| 10171 | AAE | LTE-FDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)        | LTE-FDD | 6.49  | ± 9.6 % |
| 10172 | CAG | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK)          | LTE-TDD | 9.21  | ± 9.6 % |
| 10173 | CAG | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM)        | LTE-TDD | 9.48  | ± 9.6 % |
| 10174 | CAG | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM)        | LTE-TDD | 10.25 | ± 9.6 % |
| 10175 | CAG | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, QPSK)          | LTE-FDD | 5.72  | ± 9.6 % |
| 10176 | CAG | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)        | LTE-FDD | 6.52  | ± 9.6 % |
| 10177 | CAI | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, QPSK)           | LTE-FDD | 5.73  | ± 9.6 % |
| 10178 | CAG | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)         | LTE-FDD | 6.52  | ± 9.6 % |
| 10179 | CAG | LTE-FDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)        | LTE-FDD | 6.50  | ± 9.6 % |
| 10180 | CAG | LTE-FDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)         | LTE-FDD | 6.50  | ± 9.6 % |
| 10181 | CAE | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, QPSK)          | LTE-FDD | 5.72  | ± 9.6 % |
| 10182 | CAE | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)        | LTE-FDD | 6.52  | ± 9.6 % |
| 10183 | AAD | LTE-FDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)        | LTE-FDD | 6.50  | ± 9.6 % |
| 10184 | CAE | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, QPSK)           | LTE-FDD | 5.73  | ± 9.6 % |
| 10185 | CAE | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)         | LTE-FDD | 6.51  | ± 9.6 % |
| 10186 | AAE | LTE-FDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)         | LTE-FDD | 6.50  | ± 9.6 % |
| 10187 | CAF | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)         | LTE-FDD | 5.73  | ± 9.6 % |
| 10188 | CAF | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)       | LTE-FDD | 6.52  | ± 9.6 % |
| 10189 | AAF | LTE-FDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)       | LTE-FDD | 6.50  | ± 9.6 % |
| 10193 | CAC | IEEE 802.11n (HT Greenfield, 6.5 Mbps, BPSK)   | WLAN    | 8.09  | ± 9.6 % |
| 10194 | CAC | IEEE 802.11n (HT Greenfield, 39 Mbps, 16-QAM)  | WLAN    | 8.12  | ± 9.6 % |
| 10195 | CAC | IEEE 802.11n (HT Greenfield, 65 Mbps, 64-QAM)  | WLAN    | 8.21  | ± 9.6 % |
| 10196 | CAC | IEEE 802.11n (HT Mixed, 6.5 Mbps, BPSK)        | WLAN    | 8.10  | ± 9.6 % |
| 10197 | CAC | IEEE 802.11n (HT Mixed, 39 Mbps, 16-QAM)       | WLAN    | 8.13  | ± 9.6 % |
| 10198 | CAC | IEEE 802.11n (HT Mixed, 65 Mbps, 64-QAM)       | WLAN    | 8.27  | ± 9.6 % |
| 10219 | CAC | IEEE 802.11n (HT Mixed, 7.2 Mbps, BPSK)        | WLAN    | 8.03  | ± 9.6 % |

|       |     |   |          |       |         |
|-------|-----|---|----------|-------|---------|
| 10220 | CAC | IEEE 802.11n (HT Mixed, 43.3 Mbps, 16-QAM)  | WLAN     | 8.13  | ± 9.6 % |
| 10221 | CAC | IEEE 802.11n (HT Mixed, 72.2 Mbps, 64-QAM)  | WLAN     | 8.27  | ± 9.6 % |
| 10222 | CAC | IEEE 802.11n (HT Mixed, 15 Mbps, BPSK)      | WLAN     | 8.06  | ± 9.6 % |
| 10223 | CAC | IEEE 802.11n (HT Mixed, 90 Mbps, 16-QAM)    | WLAN     | 8.48  | ± 9.6 % |
| 10224 | CAC | IEEE 802.11n (HT Mixed, 150 Mbps, 64-QAM)   | WLAN     | 8.08  | ± 9.6 % |
| 10225 | CAB | UMTS-FDD (HSPA+)                            | WCDMA    | 5.97  | ± 9.6 % |
| 10226 | CAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM)    | LTE-TDD  | 9.49  | ± 9.6 % |
| 10227 | CAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM)    | LTE-TDD  | 10.26 | ± 9.6 % |
| 10228 | CAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK)      | LTE-TDD  | 9.22  | ± 9.6 % |
| 10229 | CAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM)      | LTE-TDD  | 9.48  | ± 9.6 % |
| 10230 | CAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM)      | LTE-TDD  | 10.25 | ± 9.6 % |
| 10231 | CAC | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK)        | LTE-TDD  | 9.19  | ± 9.6 % |
| 10232 | CAF | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM)      | LTE-TDD  | 9.48  | ± 9.6 % |
| 10233 | CAF | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM)      | LTE-TDD  | 10.25 | ± 9.6 % |
| 10234 | CAF | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK)        | LTE-TDD  | 9.21  | ± 9.6 % |
| 10235 | CAF | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM)     | LTE-TDD  | 9.48  | ± 9.6 % |
| 10236 | CAF | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM)     | LTE-TDD  | 10.25 | ± 9.6 % |
| 10237 | CAF | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK)       | LTE-TDD  | 9.21  | ± 9.6 % |
| 10238 | CAF | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM)     | LTE-TDD  | 9.48  | ± 9.6 % |
| 10239 | CAF | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM)     | LTE-TDD  | 10.25 | ± 9.6 % |
| 10240 | CAF | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK)       | LTE-TDD  | 9.21  | ± 9.6 % |
| 10241 | CAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM)  | LTE-TDD  | 9.82  | ± 9.6 % |
| 10242 | CAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM)  | LTE-TDD  | 9.86  | ± 9.6 % |
| 10243 | CAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK)    | LTE-TDD  | 9.46  | ± 9.6 % |
| 10244 | CAC | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)    | LTE-TDD  | 10.06 | ± 9.6 % |
| 10245 | CAC | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)    | LTE-TDD  | 10.06 | ± 9.6 % |
| 10246 | CAC | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK)      | LTE-TDD  | 9.30  | ± 9.6 % |
| 10247 | CAF | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM)    | LTE-TDD  | 9.91  | ± 9.6 % |
| 10248 | CAF | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM)    | LTE-TDD  | 10.09 | ± 9.6 % |
| 10249 | CAF | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK)      | LTE-TDD  | 9.29  | ± 9.6 % |
| 10250 | CAF | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM)   | LTE-TDD  | 9.81  | ± 9.6 % |
| 10251 | CAF | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM)   | LTE-TDD  | 10.17 | ± 9.6 % |
| 10252 | CAF | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK)     | LTE-TDD  | 9.24  | ± 9.6 % |
| 10253 | CAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM)   | LTE-TDD  | 9.90  | ± 9.6 % |
| 10254 | CAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM)   | LTE-TDD  | 10.14 | ± 9.6 % |
| 10255 | CAF | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK)     | LTE-TDD  | 9.20  | ± 9.6 % |
| 10256 | CAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM) | LTE-TDD  | 9.96  | ± 9.6 % |
| 10257 | CAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM) | LTE-TDD  | 10.08 | ± 9.6 % |
| 10258 | CAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK)   | LTE-TDD  | 9.34  | ± 9.6 % |
| 10259 | CAC | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM)   | LTE-TDD  | 9.98  | ± 9.6 % |
| 10260 | CAC | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM)   | LTE-TDD  | 9.97  | ± 9.6 % |
| 10261 | CAC | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK)     | LTE-TDD  | 9.24  | ± 9.6 % |
| 10262 | CAF | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM)   | LTE-TDD  | 9.83  | ± 9.6 % |
| 10263 | CAF | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM)   | LTE-TDD  | 10.16 | ± 9.6 % |
| 10264 | CAF | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK)     | LTE-TDD  | 9.23  | ± 9.6 % |
| 10265 | CAF | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM)  | LTE-TDD  | 9.92  | ± 9.6 % |
| 10266 | CAF | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM)  | LTE-TDD  | 10.07 | ± 9.6 % |
| 10267 | CAF | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK)    | LTE-TDD  | 9.30  | ± 9.6 % |
| 10268 | CAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM)  | LTE-TDD  | 10.06 | ± 9.6 % |
| 10269 | CAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM)  | LTE-TDD  | 10.13 | ± 9.6 % |
| 10270 | CAF | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK)    | LTE-TDD  | 9.58  | ± 9.6 % |
| 10274 | CAB | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.10)   | WCDMA    | 4.87  | ± 9.6 % |
| 10275 | CAB | UMTS-FDD (HSUPA, Subtest 5, 3GPP Rel8.4)    | WCDMA    | 3.96  | ± 9.6 % |
| 10277 | CAA | PHS (QPSK)                                  | PHS      | 11.81 | ± 9.6 % |
| 10278 | CAA | PHS (QPSK, BW 884MHz, Rolloff 0.5)          | PHS      | 11.81 | ± 9.6 % |
| 10279 | CAA | PHS (QPSK, BW 884MHz, Rolloff 0.38)         | PHS      | 12.18 | ± 9.6 % |
| 10290 | AAB | CDMA2000, RC1, SO55, Full Rate              | CDMA2000 | 3.91  | ± 9.6 % |
| 10291 | AAB | CDMA2000, RC3, SO55, Full Rate              | CDMA2000 | 3.46  | ± 9.6 % |
| 10292 | AAB | CDMA2000, RC3, SO32, Full Rate              | CDMA2000 | 3.39  | ± 9.6 % |
| 10293 | AAB | CDMA2000, RC3, SO3, Full Rate               | CDMA2000 | 3.50  | ± 9.6 % |
| 10295 | AAB | CDMA2000, RC1, SO3, 1/8th Rate 25 fr.       | CDMA2000 | 12.49 | ± 9.6 % |
| 10297 | AAD | LTE-FDD (SC-FDMA, 50% RB, 20 MHz, QPSK)     | LTE-FDD  | 5.81  | ± 9.6 % |
| 10298 | AAD | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, QPSK)      | LTE-FDD  | 5.72  | ± 9.6 % |
| 10299 | AAD | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM)    | LTE-FDD  | 6.39  | ± 9.6 % |

|       |     |   |          |       |         |
|-------|-----|---|----------|-------|---------|
| 10300 | AAD | LTE-FDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM)  | LTE-FDD  | 6.60  | ± 9.6 % |
| 10301 | AAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC)                              | WiMAX    | 12.03 | ± 9.6 % |
| 10302 | AAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, QPSK, PUSC, 3 CTRL symbols)              | WiMAX    | 12.57 | ± 9.6 % |
| 10303 | AAA | IEEE 802.16e WiMAX (31:15, 5ms, 10MHz, 64QAM, PUSC)                             | WiMAX    | 12.52 | ± 9.6 % |
| 10304 | AAA | IEEE 802.16e WiMAX (29:18, 5ms, 10MHz, 64QAM, PUSC)                             | WiMAX    | 11.86 | ± 9.6 % |
| 10305 | AAA | IEEE 802.16e WiMAX (31:15, 10ms, 10MHz, 64QAM, PUSC, 15 symbols)                | WiMAX    | 15.24 | ± 9.6 % |
| 10306 | AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 64QAM, PUSC, 18 symbols)                | WiMAX    | 14.67 | ± 9.6 % |
| 10307 | AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, PUSC, 18 symbols)                 | WiMAX    | 14.49 | ± 9.6 % |
| 10308 | AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, PUSC)                            | WiMAX    | 14.46 | ± 9.6 % |
| 10309 | AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, 16QAM, AMC 2x3, 18 symbols)             | WiMAX    | 14.58 | ± 9.6 % |
| 10310 | AAA | IEEE 802.16e WiMAX (29:18, 10ms, 10MHz, QPSK, AMC 2x3, 18 symbols)              | WiMAX    | 14.57 | ± 9.6 % |
| 10311 | AAD | LTE-FDD (SC-FDMA, 100% RB, 15 MHz, QPSK)  | LTE-FDD  | 6.06  | ± 9.6 % |
| 10313 | AAA | iDEN 1:3  | iDEN     | 10.51 | ± 9.6 % |
| 10314 | AAA | iDEN 1:6  | iDEN     | 13.48 | ± 9.6 % |
| 10315 | AAB | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 96pc duty cycle)                       | WLAN     | 1.71  | ± 9.6 % |
| 10316 | AAB | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 96pc duty cycle)                   | WLAN     | 8.36  | ± 9.6 % |
| 10317 | AAC | IEEE 802.11a WiFi 5 GHz (OFDM, 6 Mbps, 96pc duty cycle)                         | WLAN     | 8.36  | ± 9.6 % |
| 10352 | AAA | Pulse Waveform (200Hz, 10%)   | Generic  | 10.00 | ± 9.6 % |
| 10353 | AAA | Pulse Waveform (200Hz, 20%)   | Generic  | 6.99  | ± 9.6 % |
| 10354 | AAA | Pulse Waveform (200Hz, 40%)   | Generic  | 3.98  | ± 9.6 % |
| 10355 | AAA | Pulse Waveform (200Hz, 60%)   | Generic  | 2.22  | ± 9.6 % |
| 10356 | AAA | Pulse Waveform (200Hz, 80%)   | Generic  | 0.97  | ± 9.6 % |
| 10387 | AAA | QPSK Waveform, 1 MHz  | Generic  | 5.10  | ± 9.6 % |
| 10388 | AAA | QPSK Waveform, 10 MHz   | Generic  | 5.22  | ± 9.6 % |
| 10396 | AAA | 64-QAM Waveform, 100 kHz  | Generic  | 6.27  | ± 9.6 % |
| 10399 | AAA | 64-QAM Waveform, 40 MHz   | Generic  | 6.27  | ± 9.6 % |
| 10400 | AAD | IEEE 802.11ac WiFi (20MHz, 64-QAM, 99pc duty cycle)                             | WLAN     | 8.37  | ± 9.6 % |
| 10401 | AAD | IEEE 802.11ac WiFi (40MHz, 64-QAM, 99pc duty cycle)                             | WLAN     | 8.60  | ± 9.6 % |
| 10402 | AAD | IEEE 802.11ac WiFi (80MHz, 64-QAM, 99pc duty cycle)                             | WLAN     | 8.53  | ± 9.6 % |
| 10403 | AAB | CDMA2000 (1xEV-DO, Rev. 0)  | CDMA2000 | 3.76  | ± 9.6 % |
| 10404 | AAB | CDMA2000 (1xEV-DO, Rev. A)  | CDMA2000 | 3.77  | ± 9.6 % |
| 10406 | AAB | CDMA2000, RC3, SO32, SCH0, Full Rate  | CDMA2000 | 5.22  | ± 9.6 % |
| 10410 | AAF | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9, Subframe Conf=4) | LTE-TDD  | 7.82  | ± 9.6 % |
| 10414 | AAA | WLAN CCDF, 64-QAM, 40MHz  | Generic  | 8.54  | ± 9.6 % |
| 10415 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 99pc duty cycle)                       | WLAN     | 1.54  | ± 9.6 % |
| 10416 | AAA | IEEE 802.11g WiFi 2.4 GHz (ERP-OFDM, 6 Mbps, 99pc duty cycle)                   | WLAN     | 8.23  | ± 9.6 % |
| 10417 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 99pc duty cycle)                       | WLAN     | 8.23  | ± 9.6 % |
| 10418 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Long preamble)   | WLAN     | 8.14  | ± 9.6 % |
| 10419 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 99pc duty cycle, Short preamble)  | WLAN     | 8.19  | ± 9.6 % |
| 10422 | AAB | IEEE 802.11n (HT Greenfield, 7.2 Mbps, BPSK)                                    | WLAN     | 8.32  | ± 9.6 % |
| 10423 | AAB | IEEE 802.11n (HT Greenfield, 43.3 Mbps, 16-QAM)                                 | WLAN     | 8.47  | ± 9.6 % |
| 10424 | AAB | IEEE 802.11n (HT Greenfield, 72.2 Mbps, 64-QAM)                                 | WLAN     | 8.40  | ± 9.6 % |
| 10425 | AAB | IEEE 802.11n (HT Greenfield, 15 Mbps, BPSK)                                     | WLAN     | 8.41  | ± 9.6 % |
| 10426 | AAB | IEEE 802.11n (HT Greenfield, 90 Mbps, 16-QAM)                                   | WLAN     | 8.45  | ± 9.6 % |
| 10427 | AAB | IEEE 802.11n (HT Greenfield, 150 Mbps, 64-QAM)                                  | WLAN     | 8.41  | ± 9.6 % |
| 10430 | AAD | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1)  | LTE-FDD  | 8.28  | ± 9.6 % |
| 10431 | AAD | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1)   | LTE-FDD  | 8.38  | ± 9.6 % |
| 10432 | AAC | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1)   | LTE-FDD  | 8.34  | ± 9.6 % |
| 10433 | AAC | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1)   | LTE-FDD  | 8.34  | ± 9.6 % |
| 10434 | AAA | W-CDMA (BS Test Model 1, 64 DPCH)   | WCDMA    | 8.60  | ± 9.6 % |
| 10435 | AAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)                  | LTE-TDD  | 7.82  | ± 9.6 % |
| 10447 | AAD | LTE-FDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)                                  | LTE-FDD  | 7.56  | ± 9.6 % |
| 10448 | AAD | LTE-FDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)                                 | LTE-FDD  | 7.53  | ± 9.6 % |
| 10449 | AAC | LTE-FDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)                                 | LTE-FDD  | 7.51  | ± 9.6 % |
| 10450 | AAC | LTE-FDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%)                                 | LTE-FDD  | 7.48  | ± 9.6 % |



|       |     |  |          |      |         |
|-------|-----|--|----------|------|---------|
| 10451 | AAA | W-CDMA (BS Test Model 1, 64 DPCH, Clipping 44%)                        | WCDMA    | 7.59 | ± 9.6 % |
| 10456 | AAB | IEEE 802.11ac WiFi (160MHz, 64-QAM, 99pc duty cycle)                   | WLAN     | 8.63 | ± 9.6 % |
| 10457 | AAA | UMTS-FDD (DC-HSDPA)  | WCDMA    | 6.62 | ± 9.6 % |
| 10458 | AAA | CDMA2000 (1xEV-DO, Rev. B, 2 carriers)                                 | CDMA2000 | 6.55 | ± 9.6 % |
| 10459 | AAA | CDMA2000 (1xEV-DO, Rev. B, 3 carriers)                                 | CDMA2000 | 8.25 | ± 9.6 % |
| 10460 | AAA | UMTS-FDD (WCDMA, AMR)  | WCDMA    | 2.39 | ± 9.6 % |
| 10461 | AAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, QPSK, UL<br>Subframe=2,3,4,7,8,9)     | LTE-TDD  | 7.82 | ± 9.6 % |
| 10462 | AAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 16-QAM, UL<br>Subframe=2,3,4,7,8,9)   | LTE-TDD  | 8.30 | ± 9.6 % |
| 10463 | AAA | LTE-TDD (SC-FDMA, 1 RB, 1.4 MHz, 64-QAM, UL<br>Subframe=2,3,4,7,8,9)   | LTE-TDD  | 8.56 | ± 9.6 % |
| 10464 | AAB | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, QPSK, UL<br>Subframe=2,3,4,7,8,9)       | LTE-TDD  | 7.82 | ± 9.6 % |
| 10465 | AAB | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 16-QAM, UL<br>Subframe=2,3,4,7,8,9)     | LTE-TDD  | 8.32 | ± 9.6 % |
| 10466 | AAB | LTE-TDD (SC-FDMA, 1 RB, 3 MHz, 64-QAM, UL<br>Subframe=2,3,4,7,8,9)     | LTE-TDD  | 8.57 | ± 9.6 % |
| 10467 | AAE | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL<br>Subframe=2,3,4,7,8,9)       | LTE-TDD  | 7.82 | ± 9.6 % |
| 10468 | AAE | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 16-QAM, UL<br>Subframe=2,3,4,7,8,9)     | LTE-TDD  | 8.32 | ± 9.6 % |
| 10469 | AAE | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, 64-QAM, UL<br>Subframe=2,3,4,7,8,9)     | LTE-TDD  | 8.56 | ± 9.6 % |
| 10470 | AAE | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, QPSK, UL<br>Subframe=2,3,4,7,8,9)      | LTE-TDD  | 7.82 | ± 9.6 % |
| 10471 | AAE | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 16-QAM, UL<br>Subframe=2,3,4,7,8,9)    | LTE-TDD  | 8.32 | ± 9.6 % |
| 10472 | AAE | LTE-TDD (SC-FDMA, 1 RB, 10 MHz, 64-QAM, UL<br>Subframe=2,3,4,7,8,9)    | LTE-TDD  | 8.57 | ± 9.6 % |
| 10473 | AAE | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, QPSK, UL<br>Subframe=2,3,4,7,8,9)      | LTE-TDD  | 7.82 | ± 9.6 % |
| 10474 | AAE | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 16-QAM, UL<br>Subframe=2,3,4,7,8,9)    | LTE-TDD  | 8.32 | ± 9.6 % |
| 10475 | AAE | LTE-TDD (SC-FDMA, 1 RB, 15 MHz, 64-QAM, UL<br>Subframe=2,3,4,7,8,9)    | LTE-TDD  | 8.57 | ± 9.6 % |
| 10477 | AAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 16-QAM, UL<br>Subframe=2,3,4,7,8,9)    | LTE-TDD  | 8.32 | ± 9.6 % |
| 10478 | AAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, 64-QAM, UL<br>Subframe=2,3,4,7,8,9)    | LTE-TDD  | 8.57 | ± 9.6 % |
| 10479 | AAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, QPSK, UL<br>Subframe=2,3,4,7,8,9)   | LTE-TDD  | 7.74 | ± 9.6 % |
| 10480 | AAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 16-QAM, UL<br>Subframe=2,3,4,7,8,9) | LTE-TDD  | 8.18 | ± 9.6 % |
| 10481 | AAA | LTE-TDD (SC-FDMA, 50% RB, 1.4 MHz, 64-QAM, UL<br>Subframe=2,3,4,7,8,9) | LTE-TDD  | 8.45 | ± 9.6 % |
| 10482 | AAB | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, QPSK, UL<br>Subframe=2,3,4,7,8,9)     | LTE-TDD  | 7.71 | ± 9.6 % |
| 10483 | AAB | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 16-QAM, UL<br>Subframe=2,3,4,7,8,9)   | LTE-TDD  | 8.39 | ± 9.6 % |
| 10484 | AAB | LTE-TDD (SC-FDMA, 50% RB, 3 MHz, 64-QAM, UL<br>Subframe=2,3,4,7,8,9)   | LTE-TDD  | 8.47 | ± 9.6 % |
| 10485 | AAE | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, QPSK, UL<br>Subframe=2,3,4,7,8,9)     | LTE-TDD  | 7.59 | ± 9.6 % |
| 10486 | AAE | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 16-QAM, UL<br>Subframe=2,3,4,7,8,9)   | LTE-TDD  | 8.38 | ± 9.6 % |
| 10487 | AAE | LTE-TDD (SC-FDMA, 50% RB, 5 MHz, 64-QAM, UL<br>Subframe=2,3,4,7,8,9)   | LTE-TDD  | 8.60 | ± 9.6 % |
| 10488 | AAE | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, QPSK, UL<br>Subframe=2,3,4,7,8,9)    | LTE-TDD  | 7.70 | ± 9.6 % |
| 10489 | AAE | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 16-QAM, UL<br>Subframe=2,3,4,7,8,9)  | LTE-TDD  | 8.31 | ± 9.6 % |
| 10490 | AAE | LTE-TDD (SC-FDMA, 50% RB, 10 MHz, 64-QAM, UL<br>Subframe=2,3,4,7,8,9)  | LTE-TDD  | 8.54 | ± 9.6 % |
| 10491 | AAE | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, QPSK, UL<br>Subframe=2,3,4,7,8,9)    | LTE-TDD  | 7.74 | ± 9.6 % |

|       |     |  |         |      |         |
|-------|-----|--|---------|------|---------|
| 10492 | AAE | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.41 | ± 9.6 % |
| 10493 | AAE | LTE-TDD (SC-FDMA, 50% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.55 | ± 9.6 % |
| 10494 | AAF | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 7.74 | ± 9.6 % |
| 10495 | AAF | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.37 | ± 9.6 % |
| 10496 | AAF | LTE-TDD (SC-FDMA, 50% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.54 | ± 9.6 % |
| 10497 | AAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, QPSK, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 7.67 | ± 9.6 % |
| 10498 | AAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9) | LTE-TDD | 8.40 | ± 9.6 % |
| 10499 | AAA | LTE-TDD (SC-FDMA, 100% RB, 1.4 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9) | LTE-TDD | 8.68 | ± 9.6 % |
| 10500 | AAB | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 7.67 | ± 9.6 % |
| 10501 | AAB | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.44 | ± 9.6 % |
| 10502 | AAB | LTE-TDD (SC-FDMA, 100% RB, 3 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.52 | ± 9.6 % |
| 10503 | AAE | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, QPSK, UL Subframe=2,3,4,7,8,9)     | LTE-TDD | 7.72 | ± 9.6 % |
| 10504 | AAE | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.31 | ± 9.6 % |
| 10505 | AAE | LTE-TDD (SC-FDMA, 100% RB, 5 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)   | LTE-TDD | 8.54 | ± 9.6 % |
| 10506 | AAE | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | LTE-TDD | 7.74 | ± 9.6 % |
| 10507 | AAE | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.36 | ± 9.6 % |
| 10508 | AAE | LTE-TDD (SC-FDMA, 100% RB, 10 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.55 | ± 9.6 % |
| 10509 | AAE | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | LTE-TDD | 7.99 | ± 9.6 % |
| 10510 | AAE | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.49 | ± 9.6 % |
| 10511 | AAE | LTE-TDD (SC-FDMA, 100% RB, 15 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.51 | ± 9.6 % |
| 10512 | AAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, QPSK, UL Subframe=2,3,4,7,8,9)    | LTE-TDD | 7.74 | ± 9.6 % |
| 10513 | AAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 16-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.42 | ± 9.6 % |
| 10514 | AAF | LTE-TDD (SC-FDMA, 100% RB, 20 MHz, 64-QAM, UL Subframe=2,3,4,7,8,9)  | LTE-TDD | 8.45 | ± 9.6 % |
| 10515 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 99pc duty cycle)            | WLAN    | 1.58 | ± 9.6 % |
| 10516 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 99pc duty cycle)          | WLAN    | 1.57 | ± 9.6 % |
| 10517 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 99pc duty cycle)           | WLAN    | 1.58 | ± 9.6 % |
| 10518 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 99pc duty cycle)            | WLAN    | 8.23 | ± 9.6 % |
| 10519 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 99pc duty cycle)           | WLAN    | 8.39 | ± 9.6 % |
| 10520 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 99pc duty cycle)           | WLAN    | 8.12 | ± 9.6 % |
| 10521 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 99pc duty cycle)           | WLAN    | 7.97 | ± 9.6 % |
| 10522 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 99pc duty cycle)           | WLAN    | 8.45 | ± 9.6 % |
| 10523 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 99pc duty cycle)           | WLAN    | 8.08 | ± 9.6 % |
| 10524 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 99pc duty cycle)           | WLAN    | 8.27 | ± 9.6 % |
| 10525 | AAB | IEEE 802.11ac WiFi (20MHz, MCS0, 99pc duty cycle)                    | WLAN    | 8.36 | ± 9.6 % |
| 10526 | AAB | IEEE 802.11ac WiFi (20MHz, MCS1, 99pc duty cycle)                    | WLAN    | 8.42 | ± 9.6 % |
| 10527 | AAB | IEEE 802.11ac WiFi (20MHz, MCS2, 99pc duty cycle)                    | WLAN    | 8.21 | ± 9.6 % |
| 10528 | AAB | IEEE 802.11ac WiFi (20MHz, MCS3, 99pc duty cycle)                    | WLAN    | 8.36 | ± 9.6 % |
| 10529 | AAB | IEEE 802.11ac WiFi (20MHz, MCS4, 99pc duty cycle)                    | WLAN    | 8.36 | ± 9.6 % |
| 10531 | AAB | IEEE 802.11ac WiFi (20MHz, MCS6, 99pc duty cycle)                    | WLAN    | 8.43 | ± 9.6 % |
| 10532 | AAB | IEEE 802.11ac WiFi (20MHz, MCS7, 99pc duty cycle)                    | WLAN    | 8.29 | ± 9.6 % |
| 10533 | AAB | IEEE 802.11ac WiFi (20MHz, MCS8, 99pc duty cycle)                    | WLAN    | 8.38 | ± 9.6 % |
| 10534 | AAB | IEEE 802.11ac WiFi (40MHz, MCS0, 99pc duty cycle)                    | WLAN    | 8.45 | ± 9.6 % |

|       |     |   |      |      |         |
|-------|-----|---|------|------|---------|
| 10535 | AAB | IEEE 802.11ac WiFi (40MHz, MCS1, 99pc duty cycle)               | WLAN | 8.45 | ± 9.6 % |
| 10536 | AAB | IEEE 802.11ac WiFi (40MHz, MCS2, 99pc duty cycle)               | WLAN | 8.32 | ± 9.6 % |
| 10537 | AAB | IEEE 802.11ac WiFi (40MHz, MCS3, 99pc duty cycle)               | WLAN | 8.44 | ± 9.6 % |
| 10538 | AAB | IEEE 802.11ac WiFi (40MHz, MCS4, 99pc duty cycle)               | WLAN | 8.54 | ± 9.6 % |
| 10540 | AAB | IEEE 802.11ac WiFi (40MHz, MCS6, 99pc duty cycle)               | WLAN | 8.39 | ± 9.6 % |
| 10541 | AAB | IEEE 802.11ac WiFi (40MHz, MCS7, 99pc duty cycle)               | WLAN | 8.46 | ± 9.6 % |
| 10542 | AAB | IEEE 802.11ac WiFi (40MHz, MCS8, 99pc duty cycle)               | WLAN | 8.65 | ± 9.6 % |
| 10543 | AAB | IEEE 802.11ac WiFi (40MHz, MCS9, 99pc duty cycle)               | WLAN | 8.65 | ± 9.6 % |
| 10544 | AAB | IEEE 802.11ac WiFi (80MHz, MCS0, 99pc duty cycle)               | WLAN | 8.47 | ± 9.6 % |
| 10545 | AAB | IEEE 802.11ac WiFi (80MHz, MCS1, 99pc duty cycle)               | WLAN | 8.55 | ± 9.6 % |
| 10546 | AAB | IEEE 802.11ac WiFi (80MHz, MCS2, 99pc duty cycle)               | WLAN | 8.35 | ± 9.6 % |
| 10547 | AAB | IEEE 802.11ac WiFi (80MHz, MCS3, 99pc duty cycle)               | WLAN | 8.49 | ± 9.6 % |
| 10548 | AAB | IEEE 802.11ac WiFi (80MHz, MCS4, 99pc duty cycle)               | WLAN | 8.37 | ± 9.6 % |
| 10550 | AAB | IEEE 802.11ac WiFi (80MHz, MCS6, 99pc duty cycle)               | WLAN | 8.38 | ± 9.6 % |
| 10551 | AAB | IEEE 802.11ac WiFi (80MHz, MCS7, 99pc duty cycle)               | WLAN | 8.50 | ± 9.6 % |
| 10552 | AAB | IEEE 802.11ac WiFi (80MHz, MCS8, 99pc duty cycle)               | WLAN | 8.42 | ± 9.6 % |
| 10553 | AAB | IEEE 802.11ac WiFi (80MHz, MCS9, 99pc duty cycle)               | WLAN | 8.45 | ± 9.6 % |
| 10554 | AAC | IEEE 802.11ac WiFi (160MHz, MCS0, 99pc duty cycle)              | WLAN | 8.48 | ± 9.6 % |
| 10555 | AAC | IEEE 802.11ac WiFi (160MHz, MCS1, 99pc duty cycle)              | WLAN | 8.47 | ± 9.6 % |
| 10556 | AAC | IEEE 802.11ac WiFi (160MHz, MCS2, 99pc duty cycle)              | WLAN | 8.50 | ± 9.6 % |
| 10557 | AAC | IEEE 802.11ac WiFi (160MHz, MCS3, 99pc duty cycle)              | WLAN | 8.52 | ± 9.6 % |
| 10558 | AAC | IEEE 802.11ac WiFi (160MHz, MCS4, 99pc duty cycle)              | WLAN | 8.61 | ± 9.6 % |
| 10560 | AAC | IEEE 802.11ac WiFi (160MHz, MCS6, 99pc duty cycle)              | WLAN | 8.73 | ± 9.6 % |
| 10561 | AAC | IEEE 802.11ac WiFi (160MHz, MCS7, 99pc duty cycle)              | WLAN | 8.56 | ± 9.6 % |
| 10562 | AAC | IEEE 802.11ac WiFi (160MHz, MCS8, 99pc duty cycle)              | WLAN | 8.69 | ± 9.6 % |
| 10563 | AAC | IEEE 802.11ac WiFi (160MHz, MCS9, 99pc duty cycle)              | WLAN | 8.77 | ± 9.6 % |
| 10564 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 99pc duty cycle)  | WLAN | 8.25 | ± 9.6 % |
| 10565 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 99pc duty cycle) | WLAN | 8.45 | ± 9.6 % |
| 10566 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 99pc duty cycle) | WLAN | 8.13 | ± 9.6 % |
| 10567 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 99pc duty cycle) | WLAN | 8.00 | ± 9.6 % |
| 10568 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 99pc duty cycle) | WLAN | 8.37 | ± 9.6 % |
| 10569 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 99pc duty cycle) | WLAN | 8.10 | ± 9.6 % |
| 10570 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 99pc duty cycle) | WLAN | 8.30 | ± 9.6 % |
| 10571 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 1 Mbps, 90pc duty cycle)       | WLAN | 1.99 | ± 9.6 % |
| 10572 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 2 Mbps, 90pc duty cycle)       | WLAN | 1.99 | ± 9.6 % |
| 10573 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 5.5 Mbps, 90pc duty cycle)     | WLAN | 1.98 | ± 9.6 % |
| 10574 | AAA | IEEE 802.11b WiFi 2.4 GHz (DSSS, 11 Mbps, 90pc duty cycle)      | WLAN | 1.98 | ± 9.6 % |
| 10575 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 6 Mbps, 90pc duty cycle)  | WLAN | 8.59 | ± 9.6 % |
| 10576 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 9 Mbps, 90pc duty cycle)  | WLAN | 8.60 | ± 9.6 % |
| 10577 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 12 Mbps, 90pc duty cycle) | WLAN | 8.70 | ± 9.6 % |
| 10578 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 18 Mbps, 90pc duty cycle) | WLAN | 8.49 | ± 9.6 % |
| 10579 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 24 Mbps, 90pc duty cycle) | WLAN | 8.36 | ± 9.6 % |
| 10580 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 36 Mbps, 90pc duty cycle) | WLAN | 8.76 | ± 9.6 % |
| 10581 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 48 Mbps, 90pc duty cycle) | WLAN | 8.35 | ± 9.6 % |
| 10582 | AAA | IEEE 802.11g WiFi 2.4 GHz (DSSS-OFDM, 54 Mbps, 90pc duty cycle) | WLAN | 8.67 | ± 9.6 % |
| 10583 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 6 Mbps, 90pc duty cycle)       | WLAN | 8.59 | ± 9.6 % |
| 10584 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 9 Mbps, 90pc duty cycle)       | WLAN | 8.60 | ± 9.6 % |
| 10585 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 12 Mbps, 90pc duty cycle)      | WLAN | 8.70 | ± 9.6 % |
| 10586 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 18 Mbps, 90pc duty cycle)      | WLAN | 8.49 | ± 9.6 % |
| 10587 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 24 Mbps, 90pc duty cycle)      | WLAN | 8.36 | ± 9.6 % |



|       |     |  |          |       |         |
|-------|-----|--|----------|-------|---------|
| 10588 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 36 Mbps, 90pc duty cycle) | WLAN     | 8.76  | ± 9.6 % |
| 10589 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 48 Mbps, 90pc duty cycle) | WLAN     | 8.35  | ± 9.6 % |
| 10590 | AAB | IEEE 802.11a/h WiFi 5 GHz (OFDM, 54 Mbps, 90pc duty cycle) | WLAN     | 8.67  | ± 9.6 % |
| 10591 | AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS0, 90pc duty cycle)      | WLAN     | 8.63  | ± 9.6 % |
| 10592 | AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS1, 90pc duty cycle)      | WLAN     | 8.79  | ± 9.6 % |
| 10593 | AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS2, 90pc duty cycle)      | WLAN     | 8.64  | ± 9.6 % |
| 10594 | AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS3, 90pc duty cycle)      | WLAN     | 8.74  | ± 9.6 % |
| 10595 | AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS4, 90pc duty cycle)      | WLAN     | 8.74  | ± 9.6 % |
| 10596 | AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS5, 90pc duty cycle)      | WLAN     | 8.71  | ± 9.6 % |
| 10597 | AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS6, 90pc duty cycle)      | WLAN     | 8.72  | ± 9.6 % |
| 10598 | AAB | IEEE 802.11n (HT Mixed, 20MHz, MCS7, 90pc duty cycle)      | WLAN     | 8.50  | ± 9.6 % |
| 10599 | AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS0, 90pc duty cycle)      | WLAN     | 8.79  | ± 9.6 % |
| 10600 | AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS1, 90pc duty cycle)      | WLAN     | 8.88  | ± 9.6 % |
| 10601 | AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS2, 90pc duty cycle)      | WLAN     | 8.82  | ± 9.6 % |
| 10602 | AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS3, 90pc duty cycle)      | WLAN     | 8.94  | ± 9.6 % |
| 10603 | AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS4, 90pc duty cycle)      | WLAN     | 9.03  | ± 9.6 % |
| 10604 | AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS5, 90pc duty cycle)      | WLAN     | 8.76  | ± 9.6 % |
| 10605 | AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS6, 90pc duty cycle)      | WLAN     | 8.97  | ± 9.6 % |
| 10606 | AAB | IEEE 802.11n (HT Mixed, 40MHz, MCS7, 90pc duty cycle)      | WLAN     | 8.82  | ± 9.6 % |
| 10607 | AAB | IEEE 802.11ac WiFi (20MHz, MCS0, 90pc duty cycle)          | WLAN     | 8.64  | ± 9.6 % |
| 10608 | AAB | IEEE 802.11ac WiFi (20MHz, MCS1, 90pc duty cycle)          | WLAN     | 8.77  | ± 9.6 % |
| 10609 | AAB | IEEE 802.11ac WiFi (20MHz, MCS2, 90pc duty cycle)          | WLAN     | 8.57  | ± 9.6 % |
| 10610 | AAB | IEEE 802.11ac WiFi (20MHz, MCS3, 90pc duty cycle)          | WLAN     | 8.78  | ± 9.6 % |
| 10611 | AAB | IEEE 802.11ac WiFi (20MHz, MCS4, 90pc duty cycle)          | WLAN     | 8.70  | ± 9.6 % |
| 10612 | AAB | IEEE 802.11ac WiFi (20MHz, MCS5, 90pc duty cycle)          | WLAN     | 8.77  | ± 9.6 % |
| 10613 | AAB | IEEE 802.11ac WiFi (20MHz, MCS6, 90pc duty cycle)          | WLAN     | 8.94  | ± 9.6 % |
| 10614 | AAB | IEEE 802.11ac WiFi (20MHz, MCS7, 90pc duty cycle)          | WLAN     | 8.59  | ± 9.6 % |
| 10615 | AAB | IEEE 802.11ac WiFi (20MHz, MCS8, 90pc duty cycle)          | WLAN     | 8.82  | ± 9.6 % |
| 10616 | AAB | IEEE 802.11ac WiFi (40MHz, MCS0, 90pc duty cycle)          | WLAN     | 8.82  | ± 9.6 % |
| 10617 | AAB | IEEE 802.11ac WiFi (40MHz, MCS1, 90pc duty cycle)          | WLAN     | 8.81  | ± 9.6 % |
| 10618 | AAB | IEEE 802.11ac WiFi (40MHz, MCS2, 90pc duty cycle)          | WLAN     | 8.58  | ± 9.6 % |
| 10619 | AAB | IEEE 802.11ac WiFi (40MHz, MCS3, 90pc duty cycle)          | WLAN     | 8.86  | ± 9.6 % |
| 10620 | AAB | IEEE 802.11ac WiFi (40MHz, MCS4, 90pc duty cycle)          | WLAN     | 8.87  | ± 9.6 % |
| 10621 | AAB | IEEE 802.11ac WiFi (40MHz, MCS5, 90pc duty cycle)          | WLAN     | 8.77  | ± 9.6 % |
| 10622 | AAB | IEEE 802.11ac WiFi (40MHz, MCS6, 90pc duty cycle)          | WLAN     | 8.68  | ± 9.6 % |
| 10623 | AAB | IEEE 802.11ac WiFi (40MHz, MCS7, 90pc duty cycle)          | WLAN     | 8.82  | ± 9.6 % |
| 10624 | AAB | IEEE 802.11ac WiFi (40MHz, MCS8, 90pc duty cycle)          | WLAN     | 8.96  | ± 9.6 % |
| 10625 | AAB | IEEE 802.11ac WiFi (40MHz, MCS9, 90pc duty cycle)          | WLAN     | 8.96  | ± 9.6 % |
| 10626 | AAB | IEEE 802.11ac WiFi (80MHz, MCS0, 90pc duty cycle)          | WLAN     | 8.83  | ± 9.6 % |
| 10627 | AAB | IEEE 802.11ac WiFi (80MHz, MCS1, 90pc duty cycle)          | WLAN     | 8.88  | ± 9.6 % |
| 10628 | AAB | IEEE 802.11ac WiFi (80MHz, MCS2, 90pc duty cycle)          | WLAN     | 8.71  | ± 9.6 % |
| 10629 | AAB | IEEE 802.11ac WiFi (80MHz, MCS3, 90pc duty cycle)          | WLAN     | 8.85  | ± 9.6 % |
| 10630 | AAB | IEEE 802.11ac WiFi (80MHz, MCS4, 90pc duty cycle)          | WLAN     | 8.72  | ± 9.6 % |
| 10631 | AAB | IEEE 802.11ac WiFi (80MHz, MCS5, 90pc duty cycle)          | WLAN     | 8.81  | ± 9.6 % |
| 10632 | AAB | IEEE 802.11ac WiFi (80MHz, MCS6, 90pc duty cycle)          | WLAN     | 8.74  | ± 9.6 % |
| 10633 | AAB | IEEE 802.11ac WiFi (80MHz, MCS7, 90pc duty cycle)          | WLAN     | 8.83  | ± 9.6 % |
| 10634 | AAB | IEEE 802.11ac WiFi (80MHz, MCS8, 90pc duty cycle)          | WLAN     | 8.80  | ± 9.6 % |
| 10635 | AAB | IEEE 802.11ac WiFi (80MHz, MCS9, 90pc duty cycle)          | WLAN     | 8.81  | ± 9.6 % |
| 10636 | AAC | IEEE 802.11ac WiFi (160MHz, MCS0, 90pc duty cycle)         | WLAN     | 8.83  | ± 9.6 % |
| 10637 | AAC | IEEE 802.11ac WiFi (160MHz, MCS1, 90pc duty cycle)         | WLAN     | 8.79  | ± 9.6 % |
| 10638 | AAC | IEEE 802.11ac WiFi (160MHz, MCS2, 90pc duty cycle)         | WLAN     | 8.86  | ± 9.6 % |
| 10639 | AAC | IEEE 802.11ac WiFi (160MHz, MCS3, 90pc duty cycle)         | WLAN     | 8.85  | ± 9.6 % |
| 10640 | AAC | IEEE 802.11ac WiFi (160MHz, MCS4, 90pc duty cycle)         | WLAN     | 8.98  | ± 9.6 % |
| 10641 | AAC | IEEE 802.11ac WiFi (160MHz, MCS5, 90pc duty cycle)         | WLAN     | 9.06  | ± 9.6 % |
| 10642 | AAC | IEEE 802.11ac WiFi (160MHz, MCS6, 90pc duty cycle)         | WLAN     | 9.06  | ± 9.6 % |
| 10643 | AAC | IEEE 802.11ac WiFi (160MHz, MCS7, 90pc duty cycle)         | WLAN     | 8.89  | ± 9.6 % |
| 10644 | AAC | IEEE 802.11ac WiFi (160MHz, MCS8, 90pc duty cycle)         | WLAN     | 9.05  | ± 9.6 % |
| 10645 | AAC | IEEE 802.11ac WiFi (160MHz, MCS9, 90pc duty cycle)         | WLAN     | 9.11  | ± 9.6 % |
| 10646 | AAF | LTE-TDD (SC-FDMA, 1 RB, 5 MHz, QPSK, UL Subframe=2,7)      | LTE-TDD  | 11.96 | ± 9.6 % |
| 10647 | AAF | LTE-TDD (SC-FDMA, 1 RB, 20 MHz, QPSK, UL Subframe=2,7)     | LTE-TDD  | 11.96 | ± 9.6 % |
| 10648 | AAA | CDMA2000 (1x Advanced)                                     | CDMA2000 | 3.45  | ± 9.6 % |
| 10652 | AAD | LTE-TDD (OFDMA, 5 MHz, E-TM 3.1, Clipping 44%)             | LTE-TDD  | 6.91  | ± 9.6 % |
| 10653 | AAD | LTE-TDD (OFDMA, 10 MHz, E-TM 3.1, Clipping 44%)            | LTE-TDD  | 7.42  | ± 9.6 % |
| 10654 | AAD | LTE-TDD (OFDMA, 15 MHz, E-TM 3.1, Clipping 44%)            | LTE-TDD  | 6.96  | ± 9.6 % |

|       |     |   |           |       |         |
|-------|-----|---|-----------|-------|---------|
| 10655 | AAE | LTE-TDD (OFDMA, 20 MHz, E-TM 3.1, Clipping 44%) | LTE-TDD   | 7.21  | ± 9.6 % |
| 10658 | AAA | Pulse Waveform (200Hz, 10%)                     | Test      | 10.00 | ± 9.6 % |
| 10659 | AAA | Pulse Waveform (200Hz, 20%)                     | Test      | 6.99  | ± 9.6 % |
| 10660 | AAA | Pulse Waveform (200Hz, 40%)                     | Test      | 3.98  | ± 9.6 % |
| 10661 | AAA | Pulse Waveform (200Hz, 60%)                     | Test      | 2.22  | ± 9.6 % |
| 10662 | AAA | Pulse Waveform (200Hz, 80%)                     | Test      | 0.97  | ± 9.6 % |
| 10670 | AAA | Bluetooth Low Energy                            | Bluetooth | 2.19  | ± 9.6 % |
| 10671 | AAA | IEEE 802.11ax (20MHz, MCS0, 90pc duty cycle)    | WLAN      | 9.09  | ± 9.6 % |
| 10672 | AAA | IEEE 802.11ax (20MHz, MCS1, 90pc duty cycle)    | WLAN      | 8.57  | ± 9.6 % |
| 10673 | AAA | IEEE 802.11ax (20MHz, MCS2, 90pc duty cycle)    | WLAN      | 8.78  | ± 9.6 % |
| 10674 | AAA | IEEE 802.11ax (20MHz, MCS3, 90pc duty cycle)    | WLAN      | 8.74  | ± 9.6 % |
| 10675 | AAA | IEEE 802.11ax (20MHz, MCS4, 90pc duty cycle)    | WLAN      | 8.90  | ± 9.6 % |
| 10676 | AAA | IEEE 802.11ax (20MHz, MCS5, 90pc duty cycle)    | WLAN      | 8.77  | ± 9.6 % |
| 10677 | AAA | IEEE 802.11ax (20MHz, MCS6, 90pc duty cycle)    | WLAN      | 8.73  | ± 9.6 % |
| 10678 | AAA | IEEE 802.11ax (20MHz, MCS7, 90pc duty cycle)    | WLAN      | 8.78  | ± 9.6 % |
| 10679 | AAA | IEEE 802.11ax (20MHz, MCS8, 90pc duty cycle)    | WLAN      | 8.89  | ± 9.6 % |
| 10680 | AAA | IEEE 802.11ax (20MHz, MCS9, 90pc duty cycle)    | WLAN      | 8.80  | ± 9.6 % |
| 10681 | AAA | IEEE 802.11ax (20MHz, MCS10, 90pc duty cycle)   | WLAN      | 8.62  | ± 9.6 % |
| 10682 | AAA | IEEE 802.11ax (20MHz, MCS11, 90pc duty cycle)   | WLAN      | 8.83  | ± 9.6 % |
| 10683 | AAA | IEEE 802.11ax (20MHz, MCS0, 99pc duty cycle)    | WLAN      | 8.42  | ± 9.6 % |
| 10684 | AAA | IEEE 802.11ax (20MHz, MCS1, 99pc duty cycle)    | WLAN      | 8.26  | ± 9.6 % |
| 10685 | AAA | IEEE 802.11ax (20MHz, MCS2, 99pc duty cycle)    | WLAN      | 8.33  | ± 9.6 % |
| 10686 | AAA | IEEE 802.11ax (20MHz, MCS3, 99pc duty cycle)    | WLAN      | 8.28  | ± 9.6 % |
| 10687 | AAA | IEEE 802.11ax (20MHz, MCS4, 99pc duty cycle)    | WLAN      | 8.45  | ± 9.6 % |
| 10688 | AAA | IEEE 802.11ax (20MHz, MCS5, 99pc duty cycle)    | WLAN      | 8.29  | ± 9.6 % |
| 10689 | AAA | IEEE 802.11ax (20MHz, MCS6, 99pc duty cycle)    | WLAN      | 8.55  | ± 9.6 % |
| 10690 | AAA | IEEE 802.11ax (20MHz, MCS7, 99pc duty cycle)    | WLAN      | 8.29  | ± 9.6 % |
| 10691 | AAA | IEEE 802.11ax (20MHz, MCS8, 99pc duty cycle)    | WLAN      | 8.25  | ± 9.6 % |
| 10692 | AAA | IEEE 802.11ax (20MHz, MCS9, 99pc duty cycle)    | WLAN      | 8.29  | ± 9.6 % |
| 10693 | AAA | IEEE 802.11ax (20MHz, MCS10, 99pc duty cycle)   | WLAN      | 8.25  | ± 9.6 % |
| 10694 | AAA | IEEE 802.11ax (20MHz, MCS11, 99pc duty cycle)   | WLAN      | 8.57  | ± 9.6 % |
| 10695 | AAA | IEEE 802.11ax (40MHz, MCS0, 90pc duty cycle)    | WLAN      | 8.78  | ± 9.6 % |
| 10696 | AAA | IEEE 802.11ax (40MHz, MCS1, 90pc duty cycle)    | WLAN      | 8.91  | ± 9.6 % |
| 10697 | AAA | IEEE 802.11ax (40MHz, MCS2, 90pc duty cycle)    | WLAN      | 8.61  | ± 9.6 % |
| 10698 | AAA | IEEE 802.11ax (40MHz, MCS3, 90pc duty cycle)    | WLAN      | 8.89  | ± 9.6 % |
| 10699 | AAA | IEEE 802.11ax (40MHz, MCS4, 90pc duty cycle)    | WLAN      | 8.82  | ± 9.6 % |
| 10700 | AAA | IEEE 802.11ax (40MHz, MCS5, 90pc duty cycle)    | WLAN      | 8.73  | ± 9.6 % |
| 10701 | AAA | IEEE 802.11ax (40MHz, MCS6, 90pc duty cycle)    | WLAN      | 8.86  | ± 9.6 % |
| 10702 | AAA | IEEE 802.11ax (40MHz, MCS7, 90pc duty cycle)    | WLAN      | 8.70  | ± 9.6 % |
| 10703 | AAA | IEEE 802.11ax (40MHz, MCS8, 90pc duty cycle)    | WLAN      | 8.82  | ± 9.6 % |
| 10704 | AAA | IEEE 802.11ax (40MHz, MCS9, 90pc duty cycle)    | WLAN      | 8.56  | ± 9.6 % |
| 10705 | AAA | IEEE 802.11ax (40MHz, MCS10, 90pc duty cycle)   | WLAN      | 8.69  | ± 9.6 % |
| 10706 | AAA | IEEE 802.11ax (40MHz, MCS11, 90pc duty cycle)   | WLAN      | 8.66  | ± 9.6 % |
| 10707 | AAA | IEEE 802.11ax (40MHz, MCS0, 99pc duty cycle)    | WLAN      | 8.32  | ± 9.6 % |
| 10708 | AAA | IEEE 802.11ax (40MHz, MCS1, 99pc duty cycle)    | WLAN      | 8.55  | ± 9.6 % |
| 10709 | AAA | IEEE 802.11ax (40MHz, MCS2, 99pc duty cycle)    | WLAN      | 8.33  | ± 9.6 % |
| 10710 | AAA | IEEE 802.11ax (40MHz, MCS3, 99pc duty cycle)    | WLAN      | 8.29  | ± 9.6 % |
| 10711 | AAA | IEEE 802.11ax (40MHz, MCS4, 99pc duty cycle)    | WLAN      | 8.39  | ± 9.6 % |
| 10712 | AAA | IEEE 802.11ax (40MHz, MCS5, 99pc duty cycle)    | WLAN      | 8.67  | ± 9.6 % |
| 10713 | AAA | IEEE 802.11ax (40MHz, MCS6, 99pc duty cycle)    | WLAN      | 8.33  | ± 9.6 % |
| 10714 | AAA | IEEE 802.11ax (40MHz, MCS7, 99pc duty cycle)    | WLAN      | 8.26  | ± 9.6 % |
| 10715 | AAA | IEEE 802.11ax (40MHz, MCS8, 99pc duty cycle)    | WLAN      | 8.45  | ± 9.6 % |
| 10716 | AAA | IEEE 802.11ax (40MHz, MCS9, 99pc duty cycle)    | WLAN      | 8.30  | ± 9.6 % |
| 10717 | AAA | IEEE 802.11ax (40MHz, MCS10, 99pc duty cycle)   | WLAN      | 8.48  | ± 9.6 % |
| 10718 | AAA | IEEE 802.11ax (40MHz, MCS11, 99pc duty cycle)   | WLAN      | 8.24  | ± 9.6 % |
| 10719 | AAA | IEEE 802.11ax (80MHz, MCS0, 90pc duty cycle)    | WLAN      | 8.81  | ± 9.6 % |
| 10720 | AAA | IEEE 802.11ax (80MHz, MCS1, 90pc duty cycle)    | WLAN      | 8.87  | ± 9.6 % |
| 10721 | AAA | IEEE 802.11ax (80MHz, MCS2, 90pc duty cycle)    | WLAN      | 8.76  | ± 9.6 % |
| 10722 | AAA | IEEE 802.11ax (80MHz, MCS3, 90pc duty cycle)    | WLAN      | 8.55  | ± 9.6 % |
| 10723 | AAA | IEEE 802.11ax (80MHz, MCS4, 90pc duty cycle)    | WLAN      | 8.70  | ± 9.6 % |
| 10724 | AAA | IEEE 802.11ax (80MHz, MCS5, 90pc duty cycle)    | WLAN      | 8.90  | ± 9.6 % |
| 10725 | AAA | IEEE 802.11ax (80MHz, MCS6, 90pc duty cycle)    | WLAN      | 8.74  | ± 9.6 % |
| 10726 | AAA | IEEE 802.11ax (80MHz, MCS7, 90pc duty cycle)    | WLAN      | 8.72  | ± 9.6 % |
| 10727 | AAA | IEEE 802.11ax (80MHz, MCS8, 90pc duty cycle)    | WLAN      | 8.66  | ± 9.6 % |

|       |     |  |      |      |         |
|-------|-----|--|------|------|---------|
| 10728 | AAA | IEEE 802.11ax (80MHz, MCS9, 90pc duty cycle)   | WLAN | 8.65 | ± 9.6 % |
| 10729 | AAA | IEEE 802.11ax (80MHz, MCS10, 90pc duty cycle)  | WLAN | 8.64 | ± 9.6 % |
| 10730 | AAA | IEEE 802.11ax (80MHz, MCS11, 90pc duty cycle)  | WLAN | 8.67 | ± 9.6 % |
| 10731 | AAA | IEEE 802.11ax (80MHz, MCS0, 99pc duty cycle)   | WLAN | 8.42 | ± 9.6 % |
| 10732 | AAA | IEEE 802.11ax (80MHz, MCS1, 99pc duty cycle)   | WLAN | 8.46 | ± 9.6 % |
| 10733 | AAA | IEEE 802.11ax (80MHz, MCS2, 99pc duty cycle)   | WLAN | 8.40 | ± 9.6 % |
| 10734 | AAA | IEEE 802.11ax (80MHz, MCS3, 99pc duty cycle)   | WLAN | 8.25 | ± 9.6 % |
| 10735 | AAA | IEEE 802.11ax (80MHz, MCS4, 99pc duty cycle)   | WLAN | 8.33 | ± 9.6 % |
| 10736 | AAA | IEEE 802.11ax (80MHz, MCS5, 99pc duty cycle)   | WLAN | 8.27 | ± 9.6 % |
| 10737 | AAA | IEEE 802.11ax (80MHz, MCS6, 99pc duty cycle)   | WLAN | 8.36 | ± 9.6 % |
| 10738 | AAA | IEEE 802.11ax (80MHz, MCS7, 99pc duty cycle)   | WLAN | 8.42 | ± 9.6 % |
| 10739 | AAA | IEEE 802.11ax (80MHz, MCS8, 99pc duty cycle)   | WLAN | 8.29 | ± 9.6 % |
| 10740 | AAA | IEEE 802.11ax (80MHz, MCS9, 99pc duty cycle)   | WLAN | 8.48 | ± 9.6 % |
| 10741 | AAA | IEEE 802.11ax (80MHz, MCS10, 99pc duty cycle)  | WLAN | 8.40 | ± 9.6 % |
| 10742 | AAA | IEEE 802.11ax (80MHz, MCS11, 99pc duty cycle)  | WLAN | 8.43 | ± 9.6 % |
| 10743 | AAA | IEEE 802.11ax (160MHz, MCS0, 90pc duty cycle)  | WLAN | 8.94 | ± 9.6 % |
| 10744 | AAA | IEEE 802.11ax (160MHz, MCS1, 90pc duty cycle)  | WLAN | 9.16 | ± 9.6 % |
| 10745 | AAA | IEEE 802.11ax (160MHz, MCS2, 90pc duty cycle)  | WLAN | 8.93 | ± 9.6 % |
| 10746 | AAA | IEEE 802.11ax (160MHz, MCS3, 90pc duty cycle)  | WLAN | 9.11 | ± 9.6 % |
| 10747 | AAA | IEEE 802.11ax (160MHz, MCS4, 90pc duty cycle)  | WLAN | 9.04 | ± 9.6 % |
| 10748 | AAA | IEEE 802.11ax (160MHz, MCS5, 90pc duty cycle)  | WLAN | 8.93 | ± 9.6 % |
| 10749 | AAA | IEEE 802.11ax (160MHz, MCS6, 90pc duty cycle)  | WLAN | 8.90 | ± 9.6 % |
| 10750 | AAA | IEEE 802.11ax (160MHz, MCS7, 90pc duty cycle)  | WLAN | 8.79 | ± 9.6 % |
| 10751 | AAA | IEEE 802.11ax (160MHz, MCS8, 90pc duty cycle)  | WLAN | 8.82 | ± 9.6 % |
| 10752 | AAA | IEEE 802.11ax (160MHz, MCS9, 90pc duty cycle)  | WLAN | 8.81 | ± 9.6 % |
| 10753 | AAA | IEEE 802.11ax (160MHz, MCS10, 90pc duty cycle) | WLAN | 9.00 | ± 9.6 % |
| 10754 | AAA | IEEE 802.11ax (160MHz, MCS11, 90pc duty cycle) | WLAN | 8.94 | ± 9.6 % |
| 10755 | AAA | IEEE 802.11ax (160MHz, MCS0, 99pc duty cycle)  | WLAN | 8.64 | ± 9.6 % |
| 10756 | AAA | IEEE 802.11ax (160MHz, MCS1, 99pc duty cycle)  | WLAN | 8.77 | ± 9.6 % |
| 10757 | AAA | IEEE 802.11ax (160MHz, MCS2, 99pc duty cycle)  | WLAN | 8.77 | ± 9.6 % |
| 10758 | AAA | IEEE 802.11ax (160MHz, MCS3, 99pc duty cycle)  | WLAN | 8.69 | ± 9.6 % |
| 10759 | AAA | IEEE 802.11ax (160MHz, MCS4, 99pc duty cycle)  | WLAN | 8.58 | ± 9.6 % |
| 10760 | AAA | IEEE 802.11ax (160MHz, MCS5, 99pc duty cycle)  | WLAN | 8.49 | ± 9.6 % |
| 10761 | AAA | IEEE 802.11ax (160MHz, MCS6, 99pc duty cycle)  | WLAN | 8.58 | ± 9.6 % |
| 10762 | AAA | IEEE 802.11ax (160MHz, MCS7, 99pc duty cycle)  | WLAN | 8.49 | ± 9.6 % |
| 10763 | AAA | IEEE 802.11ax (160MHz, MCS8, 99pc duty cycle)  | WLAN | 8.53 | ± 9.6 % |
| 10764 | AAA | IEEE 802.11ax (160MHz, MCS9, 99pc duty cycle)  | WLAN | 8.54 | ± 9.6 % |
| 10765 | AAA | IEEE 802.11ax (160MHz, MCS10, 99pc duty cycle) | WLAN | 8.54 | ± 9.6 % |
| 10766 | AAA | IEEE 802.11ax (160MHz, MCS11, 99pc duty cycle) | WLAN | 8.51 | ± 9.6 % |

<sup>E</sup> Uncertainty is determined using the max. deviation from linear response applying rectangular distribution and is expressed for the square of the field value.

## Appendix D. Photographs of EUT and Setup

The setup photographs for SAR testing are shown as follows.



# FCC SAR Test Report

## <Photographs of EUT>

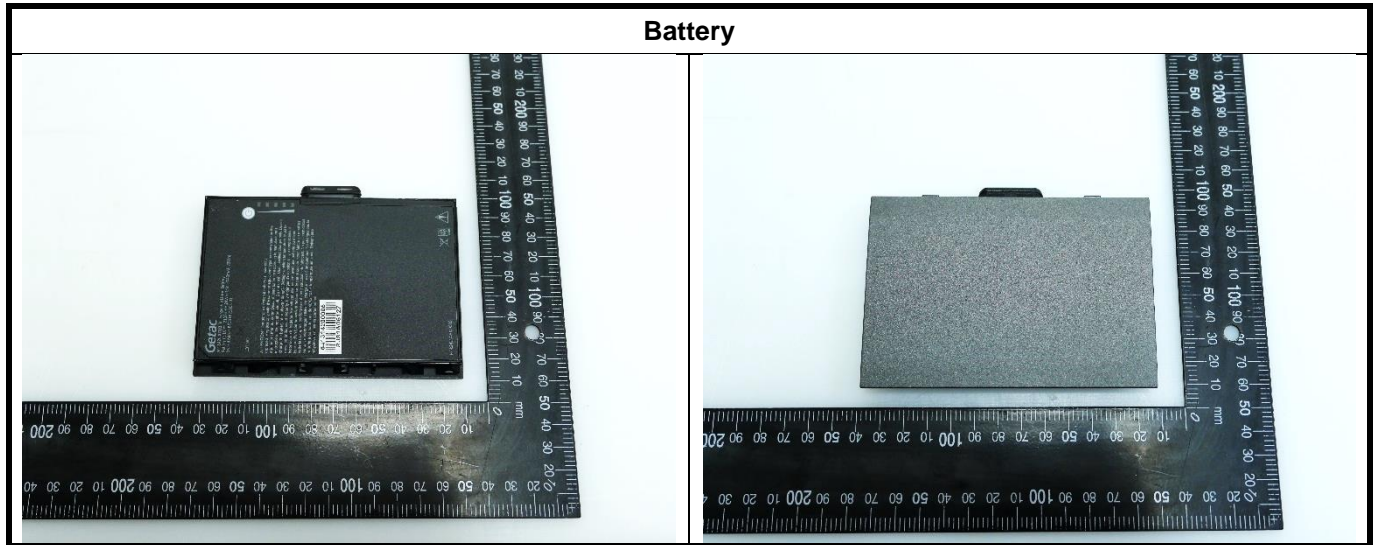
### Laptop PC Mode



### Tablet PC Mode

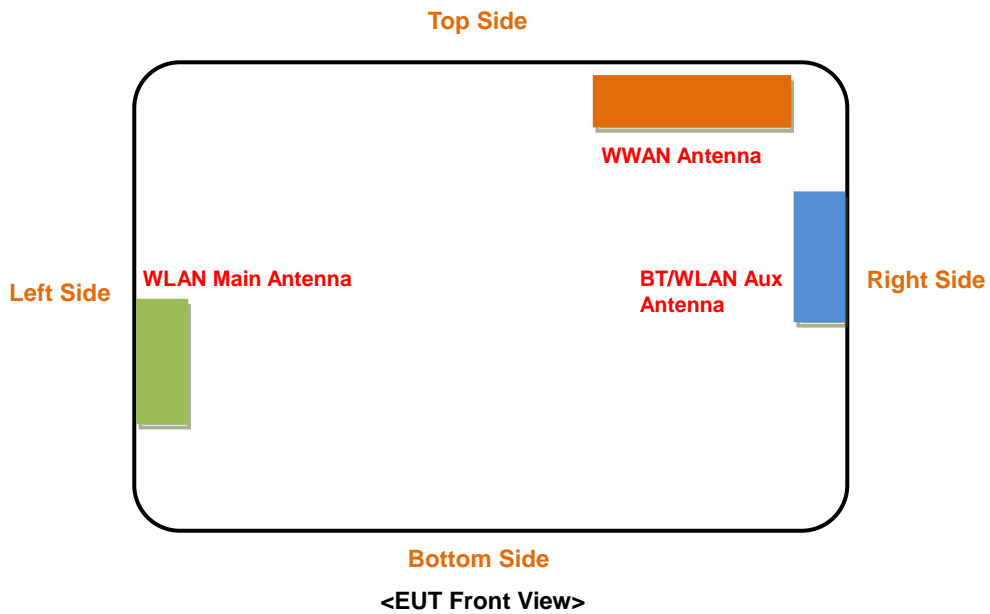


# FCC SAR Test Report



## <Antenna Location>

### Tablet PC Mode

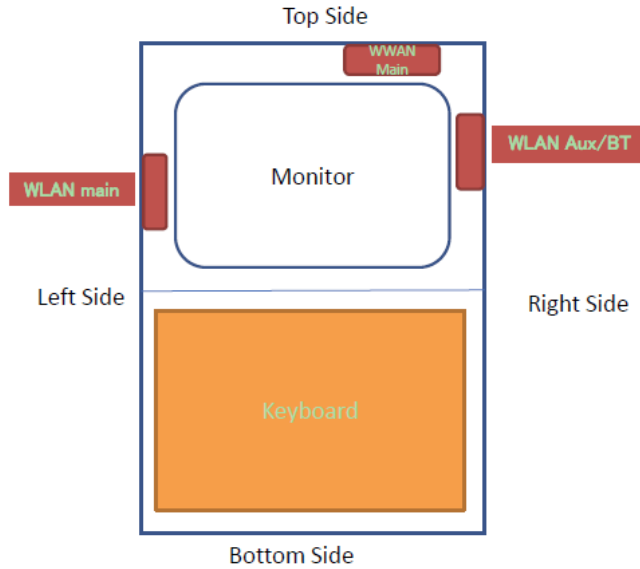


The separation distance for antenna to edge:

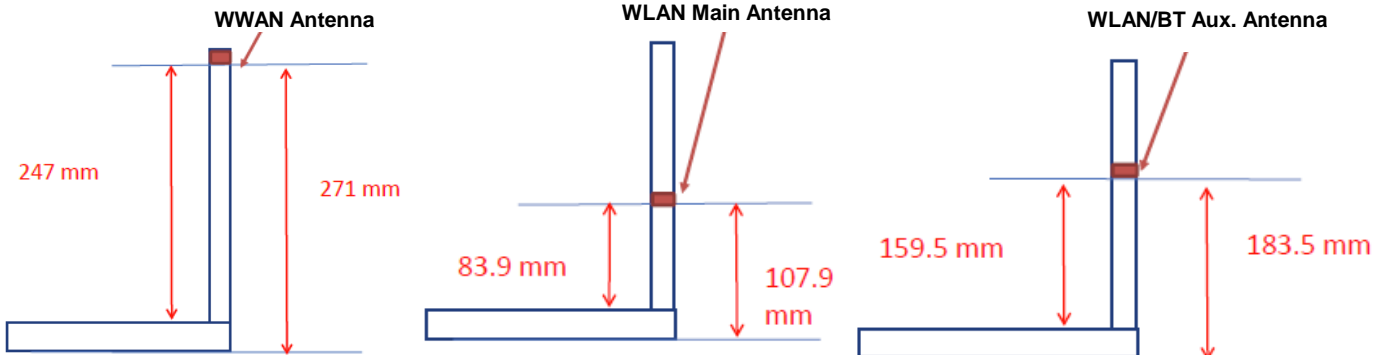
| Antenna        | To Top Side (mm) | To Bottom Side (mm) | To Left Side (mm) | To Right Side (mm) |
|----------------|------------------|---------------------|-------------------|--------------------|
| WWAN           | 0                | 208                 | 217               | 17                 |
| WLAN Ant0      | 130.5            | 44.9                | 0                 | 311                |
| BT/ WLAN Ant1. | 78.5             | 120.5               | 311               | 0                  |

# FCC SAR Test Report

## Laptop PC Mode



| Antenna      | To Top Side (mm) | To Bottom Side (mm) | To Left Side (mm) | To Right Side (mm) |
|--------------|------------------|---------------------|-------------------|--------------------|
| WWAN         | 0                | 208                 | 217               | 17                 |
| WLAN Main    | 130.5            | 44.9                | 0                 | 311                |
| BT/WLAN Aux. | 78.5             | 120.5               | 311               | 0                  |



## FCC SAR Test Report

### <Photographs of SAR Setup>



**Body - Top Side of EUT at 0 mm  
(Tablet PC Mode)**