

# TEST REPORT

|                        |                                                             |  |
|------------------------|-------------------------------------------------------------|--|
| EUT Description        | <b>Convertible PC</b>                                       |  |
| Brand Name             | <b>HP</b>                                                   |  |
| Model Name             | <b>HSN-I46C</b>                                             |  |
| FCC ID                 | <b>B94HNI46CKL</b>                                          |  |
| Date of Test Start/End | <b>2021-11-02 / 2021-12-08</b>                              |  |
| Features               | <b>WWAN (5G NR, LTE, UMTS), WLAN, BT</b><br>(see section 6) |  |
| Description            | <b>FM350-GL + HB antenna</b>                                |  |

|                      |                                                    |  |
|----------------------|----------------------------------------------------|--|
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|                               |                                                                    |                       |
|-------------------------------|--------------------------------------------------------------------|-----------------------|
| Reference Standards           | <b>FCC 47 CFR Part §2.1093</b><br>(see section 1)                  |                       |
| RF Exposure Environment       | <b>Portable devices - General population/uncontrolled exposure</b> |                       |
| Exposure Conditions           | <b>Body worn</b>                                                   |                       |
|                               | <b>SAR Result</b>                                                  | <b>SAR Limit</b>      |
| Maximum SAR Result & Limit    | <b>1.41 W/kg (1g)</b>                                              | <b>1.60 W/kg (1g)</b> |
| Min. test separation distance | <b>0mm to phantom, 2.05mm to antenna edge</b>                      |                       |

|                            |                                                                                                                  |  |
|----------------------------|------------------------------------------------------------------------------------------------------------------|--|
| Test Report identification | <b>210916-05.TR08</b>                                                                                            |  |
| Revision Control           | <b>Rev. 00</b><br><b>This test report revision replaces any previous test report revision</b><br>(see section 9) |  |

The test results relate only to the samples tested.

Reference to accreditation shall be used only by full reproduction of test report.

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# Table of Contents

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|                                                                            |           |
|----------------------------------------------------------------------------|-----------|
| <b>1. Standards, reference documents and applicable test methods .....</b> | <b>4</b>  |
| <b>2. General conditions, competences and guarantees .....</b>             | <b>4</b>  |
| <b>3. Preface .....</b>                                                    | <b>5</b>  |
| <b>4. Environmental Conditions .....</b>                                   | <b>6</b>  |
| <b>5. Test samples .....</b>                                               | <b>6</b>  |
| <b>6. EUT Features .....</b>                                               | <b>7</b>  |
| <b>7. Remarks and comments .....</b>                                       | <b>14</b> |
| <b>8. Test Verdicts summary .....</b>                                      | <b>14</b> |
| <b>9. Document Revision History .....</b>                                  | <b>14</b> |
| <b>Annex A. Test &amp; System Description .....</b>                        | <b>15</b> |
| A.1 SAR DEFINITION .....                                                   | 15        |
| A.2 SAR MEASUREMENT SYSTEM .....                                           | 16        |
| A.2.1 SAR Measurement Setup .....                                          | 16        |
| A.2.2 E-Field Measurement Probe .....                                      | 17        |
| A.2.3 SAM Phantom .....                                                    | 17        |
| A.2.4 Flat Phantom .....                                                   | 18        |
| A.2.5 Device Positioner .....                                              | 18        |
| A.3 DATA EVALUATION .....                                                  | 19        |
| A.4 SYSTEM AND LIQUID CHECK .....                                          | 21        |
| A.4.1 System Check .....                                                   | 21        |
| A.4.2 Liquid Check .....                                                   | 22        |
| A.5 TEST EQUIPMENT LIST .....                                              | 23        |
| A.5.1 SAR System #2 .....                                                  | 23        |
| A.5.2 SAR System #4 .....                                                  | 23        |
| A.5.3 Shared Instrumentation .....                                         | 24        |
| A.5.4 Tissue Simulant Liquid .....                                         | 24        |
| A.6 MEASUREMENT UNCERTAINTY EVALUATION .....                               | 25        |
| A.7 RF EXPOSURE LIMITS .....                                               | 26        |
| <b>Annex B. Test Results .....</b>                                         | <b>27</b> |
| B.1 TEST CONDITIONS .....                                                  | 27        |
| B.1.1 Test SAR Test positions relative to the phantom .....                | 27        |
| B.1.2 Test signal, Output power and Test Frequencies .....                 | 28        |
| B.1.3 Evaluation Exclusion and Test Reductions .....                       | 29        |
| B.2 CONDUCTED POWER MEASUREMENTS – TABLET MODE .....                       | 32        |
| B.2.1 WCDMA/HSPA/ DC-HSPA .....                                            | 32        |
| B.2.2 LTE .....                                                            | 35        |
| B.2.3 LTE UL Carrier Aggregation .....                                     | 68        |
| B.2.4 5G NR (FR1) Tablet Mode .....                                        | 70        |
| B.3 TISSUE PARAMETERS MEASUREMENT .....                                    | 83        |
| B.3.1 System Check Measurements .....                                      | 84        |
| B.4 SAR TABLET TEST RESULTS .....                                          | 86        |
| B.4.1 WCDMA .....                                                          | 86        |
| B.4.2 LTE .....                                                            | 87        |
| B.4.3 5G NR .....                                                          | 94        |
| B.4.4 SAR Measurement Variability .....                                    | 98        |
| B.4.5 Simultaneous Transmission SAR Evaluation .....                       | 99        |

|                                                                                          |            |
|------------------------------------------------------------------------------------------|------------|
| <b>Annex C. Test System Plots.....</b>                                                   | <b>104</b> |
| <b>Annex D. TSL Dielectric Parameters .....</b>                                          | <b>147</b> |
| D.1 BODY 600MHZ-900MHZ .....                                                             | 147        |
| D.2 BODY 1700MHZ-2000MHZ .....                                                           | 151        |
| D.3 BODY 2300MHZ-2700MHZ .....                                                           | 155        |
| D.4 BODY 3500MHZ-3900MHZ .....                                                           | 159        |
| <b>Annex E. Calibration Certificates .....</b>                                           | <b>163</b> |
| <b>Annex F. Photographs .....</b>                                                        | <b>165</b> |
| F.1 TEST SAMPLES .....                                                                   | 165        |
| F.2 TEST POSITIONS.....                                                                  | 167        |
| F.3 ANTENNA HOST PLATFORM LOCATION AND ADJACENT EDGE POSITIONS RELATIVE TO THE BODY..... | 168        |
| F.4 PHANTOM LIQUID LEVEL DURING MEASUREMENTS .....                                       | 169        |

## 1. Standards, reference documents and applicable test methods

|     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FCC | <ol style="list-style-type: none"> <li>1. FCC Title 47 CFR Part §2.1093 – Radiofrequency radiation exposure evaluation: portable devices. 2019-10-01 Edition</li> <li>2. FCC OET KDB 447498 D01 v06 – RF Exposure Procedures and Equipment Authorization Policies for Mobile and Portable Devices.</li> <li>3. FCC OET KDB 616217 D04 v01r02 – SAR Evaluation Considerations for Laptop, Notebook, Netbook and Tablet Computers.</li> <li>4. FCC OET KDB 865664 D01 v01r04 – SAR Measurement Requirements for 100 MHz to 6 GHz.</li> <li>5. FCC OET KDB 865664 D02 v01r02 – RF Exposure Compliance Reporting and Documentation Considerations.</li> <li>6. FCC OET KDB 941225 D05 v02r05 – SAR Evaluation Considerations for LTE Devices.</li> <li>7. FCC OET KDB 941225 D01 v03r01 – 3G SAR Measurement Procedures.</li> <li>8. IEEE Std 1528-2013 – IEEE Recommended Practice Determining the Peak Spatial-Average Specific Absorption Rate (SAR) in the Human Head from Wireless Communication Devices: Measurement Techniques...</li> <li>9. TCB Workshop Nov 2017; LTE UL/DL Carrier Aggregation SAR</li> <li>10. TCB workshop November 2019; RF Exposure Policy Updates (5G NR FR1 NSA EN-DC UE SAR Evaluations), the FCC OET KDB 941225 D05 rules apply.</li> </ol> |
|-----|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 2. General conditions, competences and guarantees

- ✓ Tests performed under FCC standards identified in section 1 are covered by A2LA accreditation.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is an ISO/IEC 17025:2017 laboratory accredited by the American Association for Laboratory Accreditation (A2LA) with the certificate number 3478.01.
- ✓ Intel Corporation SAS Wireless RF Lab (Intel WRF Lab) is an Accredited Test Firm recognized by the FCC, with Designation Number FR0011.
- ✓ Intel WRF Lab declines any responsibility with respect to the identified information provided by the customer and that may affect the validity of results.
- ✓ Intel WRF Lab only provides testing services and is committed to providing reliable, unbiased test results and interpretations.
- ✓ Intel WRF Lab is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.
- ✓ Intel WRF Lab has developed calibration and proficiency programs for its measurement equipment to ensure correlated and reliable results to its customers.
- ✓ This report is only referred to the item that has undergone the test.
- ✓ This report does not imply an approval of the product by the Certification Bodies or competent Authorities.

### 3. Preface

The HSN-I46C convertible PC includes the Time Averaging SAR (TAS) concept. The TAS algorithm is implemented in the Fibocom M2 FM350-GL modem, which is embedded in the FM350-GL cellular module (FCC ID: ZMOFM350GL).

The implementation details and TAS operating characteristics are described in a separated document [1]. The validation of algorithm operations is performed by Intel Corporation according to the range of commonly used accessible control parameters used for typical host products. The validation results are reported in document [2].

The FCC SAR limit is a time averaged exposure metric. At host level, the normally required SAR test procedures are applicable for SAR compliance testing at upper-threshold values of the algorithm, which is the maximum output power level for continuous time-averaging operations TAS algorithm enforces. The reliability of this has been demonstrated by results in the Algorithm Validation Test Report [2].

The model supports simultaneous transmission of WWAN, BT and WLAN. The TAS algorithm is only applied to WWAN cellular module. The WLAN / BT SAR evaluation is presented in the document [3].

The SAR evaluation of WWAN is performed in this report as well as the RF exposure assessment for simultaneous transmission of WWAN, WLAN and BT.

*[1] 210317\_TAS\_Operational\_Report\_Rev01*

*[2] 201029-02.TR01\_Rev01\_Validation Report for 5G Time Averaging Algorithm*

*[3] 210916-04.TR01 - HSN-I46C wAX211NGW WLAN\_WWAN – Legacy*

*[4] 210916-04.TR02 - HSN-I46C wAX211NGW WLAN\_WWAN – WiFi 6E*

#### 4. Environmental Conditions

- ✓ At the site where the measurements were performed the following limits were not exceeded during the tests:

|                    |              |
|--------------------|--------------|
| Temperature        | 22°C ± 2°C   |
| Humidity           | 44.0% ± 20%  |
| Liquid Temperature | 21.5°C ± 2°C |

#### 5. Test samples

| Sample | Control #     | Description    | Model    | Serial #   | Date of receipt | Note                         |
|--------|---------------|----------------|----------|------------|-----------------|------------------------------|
| #01    | 210916-05.S05 | Convertible PC | HSN-I46C | 00017609D3 | 2021-09-23      | Used for 5G NR tests         |
| #02    | 210916-05.S06 | Convertible PC | HSN-I46C | 00017609DK | 2021-09-23      | Used for LTE and WCDMA tests |

## 6. EUT Features

|                        |                        |
|------------------------|------------------------|
| Brand Name             | HP                     |
| Model Name             | HSN-I46C               |
| Prototype / Production | Production             |
| Host Identification    | HP HSN-I46C + FM350-GL |

### Supported radios

The module is a data only DUT supporting 5G NR, UMTS and LTE, with carrier aggregation. The applicable frequency bands and operating modes are identified in the following table, where North America bands are shown in **bold**.

#### WWAN:

| Mode                 | Bands                               | Supported Tx Mode |       |       |          |
|----------------------|-------------------------------------|-------------------|-------|-------|----------|
|                      |                                     | WCDMA             | HSDPA | HSUPA | DC-HSDPA |
| <b>WCDMA / HSPA+</b> | <b>FDD II (1850.0 – 1910.0 MHz)</b> | ✓                 | ✓     | ✓     | ✓        |
|                      | <b>FDD IV (1710.0 – 1755.0 MHz)</b> | ✓                 | ✓     | ✓     | ✓        |
|                      | <b>FDD V (824.0 – 849.0 MHz)</b>    | ✓                 | ✓     | ✓     | ✓        |

| FDD/TDD        | Bands                                | Modulations             | Bandwidth |   |   |    |    |    |
|----------------|--------------------------------------|-------------------------|-----------|---|---|----|----|----|
|                |                                      |                         | 1.4       | 3 | 5 | 10 | 15 | 20 |
| <b>LTE FDD</b> | <b>Band 2 (1850.0 – 1910.0 MHz)</b>  | QPSK/16QAM/64QAM/256QAM | ✓         | ✓ | ✓ | ✓  | ✓  | ✓  |
|                | <b>Band 4 (1710.0 – 1755.0 MHz)</b>  | QPSK/16QAM/64QAM/256QAM | ✓         | ✓ | ✓ | ✓  | ✓  | ✓  |
|                | <b>Band 5 (824.0 – 849.0 MHz)</b>    | QPSK/16QAM/64QAM/256QAM | ✓         | ✓ | ✓ | ✓  |    |    |
|                | <b>Band 7 (2500.0 – 2570.0 MHz)</b>  | QPSK/16QAM/64QAM/256QAM |           |   | ✓ | ✓  | ✓  | ✓  |
|                | <b>Band 12 (699.0 – 716.0 MHz)</b>   | QPSK/16QAM/64QAM/256QAM | ✓         | ✓ | ✓ | ✓  |    |    |
|                | <b>Band 13 (777.0 – 787.0 MHz)</b>   | QPSK/16QAM/64QAM/256QAM |           |   | ✓ | ✓  |    |    |
|                | <b>Band 14 (788.0 – 798.0 MHz)</b>   | QPSK/16QAM/64QAM/256QAM |           |   | ✓ | ✓  |    |    |
|                | <b>Band 17 (704.0 – 716.0 MHz)</b>   | QPSK/16QAM/64QAM/256QAM |           |   | ✓ | ✓  |    |    |
|                | <b>Band 25 (1850.0 – 1915.0 MHz)</b> | QPSK/16QAM/64QAM/256QAM | ✓         | ✓ | ✓ | ✓  | ✓  | ✓  |
|                | <b>Band 26 (814.0 – 849.0 MHz)</b>   | QPSK/16QAM/64QAM/256QAM | ✓         | ✓ | ✓ | ✓  | ✓  |    |
|                | <b>Band 30 (2305.0 – 2315.0 MHz)</b> | QPSK/16QAM/64QAM/256QAM |           |   | ✓ | ✓  |    |    |
|                | <b>Band 66 (1710.0 – 1780.0 MHz)</b> | QPSK/16QAM/64QAM/256QAM | ✓         | ✓ | ✓ | ✓  | ✓  | ✓  |
| <b>LTE TDD</b> | <b>Band 38 (2570.0 – 2620.0 MHz)</b> | QPSK/16QAM/64QAM/256QAM |           |   | ✓ | ✓  | ✓  | ✓  |
|                | <b>Band 41 (2496.0 – 2690.0 MHz)</b> | QPSK/16QAM/64QAM/256QAM |           |   | ✓ | ✓  | ✓  | ✓  |
|                | <b>Band 48 (3550.0 – 3700.0 MHz)</b> | QPSK/16QAM/64QAM/256QAM |           |   | ✓ | ✓  | ✓  | ✓  |

| Bands                                     | Modulation                                    | SCS (KHz)      | Bandwidth |             |             |             |        |        |             |        |        |        |        |        |        |
|-------------------------------------------|-----------------------------------------------|----------------|-----------|-------------|-------------|-------------|--------|--------|-------------|--------|--------|--------|--------|--------|--------|
|                                           |                                               |                | 5         | 10          | 15          | 20          | 25     | 30     | 40          | 50     | 60     | 70     | 80     | 90     | 100    |
| <b>N2 FDD</b><br>(1850.0 – 1910.0 MHz)    | P1/2 BPSK<br>QPSK<br>16QAM<br>64QAM<br>256QAM | 15<br>30       | ✓         | ✓<br>✓      | ✓<br>✓      | ✓<br>✓      |        |        |             |        |        |        |        |        |        |
| <b>N5 FDD</b><br>(824.0 – 849.0 MHz)      | PV2 BPSK<br>QPSK<br>16QAM<br>64QAM<br>256QAM  | 15<br>30<br>60 | ✓         | ✓<br>✓      | ✓<br>✓      | ✓<br>✓      |        |        |             |        |        |        |        |        |        |
| <b>N7 FDD</b><br>(2500.0 – 2570.0 MHz)    | PV2 BPSK<br>QPSK<br>16QAM<br>64QAM<br>256QAM  | 15<br>30       | ✓         | ✓<br>✓      | ✓<br>✓      | ✓<br>✓      |        |        |             |        |        |        |        |        |        |
| <b>N25 FDD</b><br>(1850.0 – 1915 MHz)     | PV2 BPSK<br>QPSK<br>16QAM<br>64QAM<br>256QAM  | 15<br>30       | ✓         | ✓<br>✓      | ✓<br>✓      | ✓<br>✓      |        |        |             |        |        |        |        |        |        |
| <b>N30 FDD</b><br>(2305.0 – 2315.0 MHz)   | PV2 BPSK<br>QPSK<br>16QAM<br>64QAM<br>256QAM  | 15<br>30       | ✓         | ✓<br>✓      |             |             |        |        |             |        |        |        |        |        |        |
| <b>N38 TDD</b><br>(2570.0 – 2620.0 MHz)   | PV2 BPSK<br>QPSK<br>16QAM<br>64QAM<br>256QAM  | 15<br>30<br>60 | ✓         | ✓<br>✓<br>✓ | ✓<br>✓<br>✓ | ✓<br>✓<br>✓ |        |        | ✓<br>✓<br>✓ |        |        |        |        |        |        |
| <b>N41 TDD</b><br>(2496.0 – 2690.0 MHz)   | PV2 BPSK<br>QPSK<br>16QAM<br>64QAM<br>256QAM  | 15<br>30       |           |             |             | ✓<br>✓      |        |        | ✓<br>✓      | ✓<br>✓ | ✓<br>✓ | ✓<br>✓ | ✓<br>✓ | ✓<br>✓ | ✓<br>✓ |
| <b>N66 FDD</b><br>(1710.0 – 1780.0 MHz)   | PV2 BPSK<br>QPSK<br>16QAM<br>64QAM<br>256QAM  | 15<br>30       | ✓         | ✓<br>✓      | ✓<br>✓      | ✓<br>✓      | ✓<br>✓ | ✓<br>✓ | ✓<br>✓      |        |        |        |        |        |        |
| <b>N77 TDD*</b><br>(3700.0 – 3980.0 MHz)  | PV2 BPSK<br>QPSK<br>16QAM<br>64QAM<br>256QAM  | 15<br>30       |           | ✓<br>✓      | ✓<br>✓      | ✓<br>✓      | ✓<br>✓ | ✓<br>✓ | ✓<br>✓      | ✓<br>✓ | ✓<br>✓ | ✓<br>✓ | ✓<br>✓ | ✓<br>✓ | ✓<br>✓ |
| <b>N78 TDD**</b><br>(3700.0 – 3800.0 MHz) | PV2 BPSK<br>QPSK<br>16QAM<br>64QAM<br>256QAM  | 15<br>30       |           | ✓<br>✓      | ✓<br>✓      | ✓<br>✓      | ✓<br>✓ | ✓<br>✓ | ✓<br>✓      | ✓<br>✓ | ✓<br>✓ | ✓<br>✓ | ✓<br>✓ | ✓<br>✓ | ✓<br>✓ |

\*FCC limits 5G NR B77 to 3700-3980MHz

\*\* FCC limits 5G NR B78 to 3700-3800MHz



| UL carrier aggregation LTE (Inter-Band) | UL carrier aggregation LTE (Intra-band) |
|-----------------------------------------|-----------------------------------------|
| 2A – 5A                                 | 5B                                      |
| 2A – 12A                                | 7C                                      |
| 2A – 13A                                | 38C                                     |
| 2A – 14A                                | 41C                                     |
| 2A – 48A                                | 48C                                     |
| 4A – 5A                                 | 66B                                     |
| 4A – 12A                                | 66C                                     |
| 4A – 13A                                |                                         |
| 5A – 7A                                 |                                         |
| 5A – 30A                                |                                         |
| 5A – 48A                                |                                         |
| 5A – 66A                                |                                         |
| 12A – 30A                               |                                         |
| 12A – 66A                               |                                         |
| 13A – 48A                               |                                         |
| 13A – 66A                               |                                         |
| 14A – 30A                               |                                         |
| 14A – 66A                               |                                         |
| 25A – 26A                               |                                         |
| 48A – 66A                               |                                         |

| EN/DC possible combinations |                         |
|-----------------------------|-------------------------|
| NR 5G Band                  | Associated LTE Bands    |
| N2A                         | 5, 12, 13, 14           |
| N5A                         | 2, 7, 30, 66, 48        |
| N66A                        | 5, 12, 13, 48           |
| N41A                        | 2,66,41                 |
| N77A                        | 2,5,12,13,14, 30,66, 41 |
| N78A                        | 2, 5, 7, 38             |

| UL carrier aggregation 5G FR1 |
|-------------------------------|
| n2A – n5A                     |
| n5A – n66A                    |

## WLAN

| Mode                 | UL Freq Range                                                                                                                |
|----------------------|------------------------------------------------------------------------------------------------------------------------------|
| 802.11b/g/n/ax       | 2.4GHz (2400.0 – 2483.5 MHz)                                                                                                 |
| 802.11a/n/ac/ax      | 5.2GHz (5150.0 – 5250.0 MHz)<br>5.3GHz (5250.0 – 5350.0 MHz)<br>5.6GHz (5470.0 – 5725.0 MHz)<br>5.8GHz (5725.0 – 5825.0 MHz) |
| 802.11ax             | 6.0GHz (5925.0 – 7125.0 MHz)                                                                                                 |
| Bluetooth & BLE v5.2 | 2.4GHz (2400.0 – 2483.5 MHz)                                                                                                 |

**Antenna Information “information provided by the applicant”**
**The DUTs have 2 WWAN TX antennas:**

| Transmitter  | Main (Antenna 5)                | Aux (Antenna 8)                 |
|--------------|---------------------------------|---------------------------------|
| Manufacturer | HongBo                          | HongBo                          |
| Antenna type | PIFA antenna                    | PIFA antenna                    |
| Part number  | 6036B0313201<br>(00-3302700850) | 6036B0313201<br>(00-3302700850) |

See Annex F for more details on antennas location.

**WWAN Antenna Mapping**

| Configuration     | Main (Ant 5) | Aux (Ant 8) |
|-------------------|--------------|-------------|
| <b>WCDMA</b>      | LB / MHB     |             |
| <b>LTE</b>        | LB / MHB     |             |
|                   |              | UHB         |
| <b>NR 5G SA</b>   | (LB / MHB)   |             |
|                   |              | UHB         |
| <b>LTE ULCA</b>   | LB           | MHB /UHB    |
|                   | MHB          | UHB         |
|                   | B41          | UHB         |
| <b>NR 5G ENDC</b> | LB           | MHB / B41   |
|                   | B41          | N41         |
|                   | MHB          | B41/N41     |
|                   | B41/N41      | UHB         |
|                   | MHB          | UHB         |
| <b>NR 5G ULCA</b> | LB           | MHB         |

- LB: WCDMA FDD V, LTE B5/12/13/14/17/26, 5G NR n5
- MHB: WCDMA FDD II/ FDD IV, LTE B2/4/7/25/30/66/38, 5G NR n2/n7/n25/n30/n38/n66
- UHB: LTE: B41/48; NR 5G: n41/n77/n78

Note: For EN-DC mode the 4G and 5G carriers transmit on separate antennas.  
 For inter-bands on LTE and NR 5G ULCA the carriers transmit on separate antennas.

**Simultaneous Transmission Configurations**

WWAN Main (Ant5) + WWAN Aux (Ant8) + WLAN 2.4GHz Main + BT Aux  
 WWAN Main (Ant5) + WWAN Aux (Ant8) + WLAN 2.4GHz Main + WLAN 2.4GHz Aux  
 WWAN Main (Ant5) + WWAN Aux (Ant8) + WLAN 5GHz Main + BT Aux  
 WWAN Main (Ant5) + WWAN Aux (Ant8) + WLAN 5GHz Main + WLAN 5GHz Aux  
 WWAN Main (Ant5) + WWAN Aux (Ant8) + WLAN 5GHz Main + WLAN 5GHz Aux + BT Aux  
 WWAN Main (Ant5) + WWAN Aux (Ant8) + WLAN 6GHz Main + BT Aux  
 WWAN Main (Ant5) + WWAN Aux (Ant8) + WLAN 6GHz Main + WLAN 6GHz Aux  
 WWAN Main (Ant5) + WWAN Aux (Ant8) + WLAN 6GHz Main + WLAN 6GHz Aux + BT Aux

WLAN transmitter is considered in this report just for the simultaneous transmission evaluation with the WWAN module (See section B.4.5)

## Additional information

- 5.60-5.65 GHz band (TDWR) is supported by the device
- Band gap is supported by the device
- Two different power settings are implemented in the DUT:
  - Max power for Notebook mode
  - Reduced power for Tablet mode
- Maximum Power Reduction (MPR) is implemented according to 3GPP, and it is a permanent feature, built-in by design on the tune-up power:

| Modulation | Channel bandwidth / #RB |         |       |        |        |        | MPR (Db) |
|------------|-------------------------|---------|-------|--------|--------|--------|----------|
|            | 1.4 MHz                 | 3.0 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |          |
| QPSK       | > 5                     | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 1      |
| 16 QAM     | ≤ 5                     | ≤ 4     | ≤ 8   | ≤ 12   | ≤ 16   | ≤ 18   | ≤ 1      |
| 16 QAM     | > 5                     | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 2      |
| 64 QAM     | ≤ 5                     | ≤ 4     | ≤ 8   | ≤ 12   | ≤ 16   | ≥ 18   | ≤ 2      |
| 64 QAM     | > 5                     | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 3      |
| 256 QAM    | ≥ 1                     |         |       |        |        |        | ≤ 5      |

The DUT uses the maximum MPR values described in the above.

The maximum power reduction is applicable on the Tune up tolerance.

- According to 3GPP 38-101-1, the UE is allowed to reduce the maximum output power due to higher order modulations and for channel bandwidths that meets both following criteria:
  - Channel bandwidth ≤ 100MHz.
  - Relative channel bandwidth ≤ 4% for TDD bands and ≤ 3% for FDD bands

| Maximum power reduction (MPR) for power class 3                                                                                                                                                                                                              |                     |                      |                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------|----------------------|
| Modulation                                                                                                                                                                                                                                                   | MPR (dB)            |                      |                      |
|                                                                                                                                                                                                                                                              | Edge RB allocations | Outer RB allocations | Inner RB allocations |
| DFT-s-OFDM PI/2 BPSK                                                                                                                                                                                                                                         | ≤ 3.5 <sup>1</sup>  | ≤ 1.2 <sup>1</sup>   | ≤ 0.2 <sup>1</sup>   |
|                                                                                                                                                                                                                                                              | 0.5 <sup>2</sup>    | 0.5 <sup>2</sup>     | 0 <sup>2</sup>       |
| DFT-s-OFDM QPSK                                                                                                                                                                                                                                              | ≤ 1                 |                      | 0                    |
| DFT-s-OFDM 16 QAM                                                                                                                                                                                                                                            | ≤ 2                 |                      | ≤ 1                  |
| DFT-s-OFDM 64 QAM                                                                                                                                                                                                                                            | ≤ 2.5               |                      |                      |
| DFT-s-OFDM 256 QAM                                                                                                                                                                                                                                           | 4.5                 |                      |                      |
| CP-OFDM QPSK                                                                                                                                                                                                                                                 | ≤ 3                 |                      | ≤ 1.5                |
| CP-OFDM 16 QAM                                                                                                                                                                                                                                               | ≤ 3                 |                      | ≤ 2                  |
| CP-OFDM 64 QAM                                                                                                                                                                                                                                               | ≤ 3.5               |                      |                      |
| CP-OFDM 256 QAM                                                                                                                                                                                                                                              | ≤ 6.5               |                      |                      |
| NOTE 1: Applicable for UE operating in TDD mode with PI/2 PBSK modulation and if the IE [P-Boost-BPSK] is set to 1 and 40% or less slots in radio frame are used for UL transmission for bands n40, n77, n78 and n79.                                        |                     |                      |                      |
| NOTE 2: Applicable for UE operating in FDD mode, or in TDD mode in bands other than n40, n77, n78 and n79 and if the IE [Pboost-BPSK] is set to 0 and if more than 40% of slots in radio frame are used for UL transmission for bands n40, n77, n78 and n79. |                     |                      |                      |

| Maximum power reduction (MPR) for power class 2 |                     |                      |                      |
|-------------------------------------------------|---------------------|----------------------|----------------------|
| Modulation                                      | MPR (dB)            |                      |                      |
|                                                 | Edge RB allocations | Outer RB allocations | Inner RB allocations |
| DFT-s-OFDM PI/2 BPSK                            | ≤ 3.5               | ≤ 0.5                | 0                    |
| DFT-s-OFDM QPSK                                 | ≤ 3.5               | ≤ 1                  | 0                    |
| DFT-s-OFDM 16 QAM                               | ≤ 3.5               | ≤ 2                  | ≤ 1                  |
| DFT-s-OFDM 64 QAM                               | ≤ 3.5               | ≤ 2.5                |                      |
| DFT-s-OFDM 256 QAM                              | ≤ 4.5               |                      |                      |
| CP-OFDM QPSK                                    | ≤ 3.5               | ≤ 3                  | ≤ 1.5                |
| CP-OFDM 16 QAM                                  | ≤ 3.5               | ≤ 3                  | ≤ 2                  |
| CP-OFDM 64 QAM                                  | ≤ 3.5               |                      |                      |
| CP-OFDM 256 QAM                                 | ≤ 6.5               |                      |                      |

The following table indicates the power levels and tolerance for tablet mode:

**Maximum Output power specification + Tune up tolerance**

| Mode   | Tx Antenna | Technology | Bands                        | Class | Nominal (dBm) | Tolerance dB | Lower Tolerance (dBm) | Upper Tolerance (dBm) |
|--------|------------|------------|------------------------------|-------|---------------|--------------|-----------------------|-----------------------|
| Tablet | 5          | WCDMA/HSPA | FDD II (1850.0 – 1910.0 MHz) | 3     | 15.5          | ±1           | 14.5                  | 16.5                  |
|        | 5          | WCDMA/HSPA | FDD IV (1710.0 – 1755.0 MHz) | 3     | 18.0          | ±1           | 17.0                  | 19.0                  |
|        | 5          | WCDMA/HSPA | FDD V (824.0 – 849.0 MHz)    | 3     | 19.5          | ±1           | 18.5                  | 20.5                  |
|        | 5          | LTE        | B2 (1850.0 – 1910.0 MHz)     | 3     | 15.5          | ±1           | 14.5                  | 16.5                  |
|        | 5          | LTE        | B4 (1710.0 – 1755.0 MHz)     | 3     | 18.0          | ±1           | 17.0                  | 19.0                  |
|        | 5          | LTE        | B5 (824.0 – 849.0 MHz)       | 3     | 19.5          | ±1           | 18.5                  | 20.5                  |
|        | 5          | LTE        | B7 (2500.0 – 2570.0 MHz)     | 3     | 13.0          | ±1           | 12.0                  | 14.0                  |
|        | 5          | LTE        | B12 (699.0 – 716.0 MHz)      | 3     | 18.5          | ±1           | 17.5                  | 19.5                  |
|        | 5          | LTE        | B13 (777.0 – 787.0 MHz)      | 3     | 18.5          | ±1           | 17.5                  | 19.5                  |
|        | 5          | LTE        | B14 (788.0 – 798.0 MHz)      | 3     | 18.5          | ±1           | 17.5                  | 19.5                  |
|        | 5          | LTE        | B17 (704.0 – 716.0 MHz)      | 3     | 18.5          | ±1           | 17.5                  | 19.5                  |
|        | 5          | LTE        | B25 (1850.0 – 1915.0 MHz)    | 3     | 15.5          | ±1           | 14.5                  | 16.5                  |
|        | 5          | LTE        | B26 (814.0 – 849.0 MHz)      | 3     | 19.0          | ±1           | 18.0                  | 20.0                  |
|        | 5          | LTE        | B30 (2305.0 – 2315.0 MHz)    | 3     | 16.0          | ±1           | 15.0                  | 17.0                  |
|        | 5          | LTE        | B38 (2570.0 – 2620.0 MHz)    | 3     | 14.0          | ±1           | 13.0                  | 15.0                  |
|        | 5          | LTE        | B41 (2496.0 – 2690.0 MHz)    | 3     | 15.0          | ±1           | 14.0                  | 16.0                  |
|        | 5          | LTE        | B41 (2496.0 – 2690.0 MHz)    | 2     | 15.0          | ±1           | 14.0                  | 16.0                  |
|        | 5          | LTE        | B66 (1710.0 – 1780.0 MHz)    | 3     | 18.0          | ±1           | 17.0                  | 19.0                  |
|        | 8          | LTE        | B2 (1850.0 – 1910.0 MHz)     | 3     | 18.0          | ±1           | 17.0                  | 19.0                  |
|        | 8          | LTE        | B4 (1710.0 – 1755.0 MHz)     | 3     | 18.0          | ±1           | 17.0                  | 19.0                  |
|        | 8          | LTE        | B7 (2500.0 – 2570.0 MHz)     | 3     | 13.0          | ±1           | 12.0                  | 14.0                  |
|        | 8          | LTE        | B25 (1850.0 – 1915.0 MHz)    | 3     | 18.0          | ±1           | 17.0                  | 19.0                  |
|        | 8          | LTE        | B30 (2305.0 – 2315.0 MHz)    | 3     | 15.5          | ±1           | 14.5                  | 16.5                  |
|        | 8          | LTE        | B41 (2496.0 – 2690.0 MHz)    | 3     | 13.0          | ±1           | 12.0                  | 14.0                  |
|        | 8          | LTE        | B41 (2496.0 – 2690.0 MHz)    | 2     | 13.0          | ±1           | 12.0                  | 14.0                  |
|        | 8          | LTE        | B48 (3550.0 – 3700.0 MHz)    | 3     | 14.0          | ±1           | 13.0                  | 15.0                  |
|        | 8          | LTE        | B66 (1710.0 – 1780.0 MHz)    | 3     | 17.5          | ±1           | 16.5                  | 18.5                  |
|        | 5          | 5G NR      | N2 (1850.0 – 1910.0 MHz)     | 3     | 15.5          | ±1           | 14.5                  | 16.5                  |
|        | 5          | 5G NR      | N5 (824.0 – 849.0 MHz)       | 3     | 19.5          | ±1           | 18.5                  | 20.5                  |
|        | 5          | 5G NR      | N7 (2500.0 – 2570.0 MHz)     | 3     | 13.0          | ±1           | 12.0                  | 14.0                  |
|        | 5          | 5G NR      | N25 (1850.0 – 1915.0 MHz)    | 3     | 15.5          | ±1           | 14.5                  | 16.5                  |
|        | 5          | 5G NR      | N30 (2305.0 – 2315.0 MHz)    | 3     | 17.0          | ±1           | 16.0                  | 18.0                  |
|        | 5          | 5G NR      | N38 (2570.0 – 2620.0 MHz)    | 3     | 14.0          | ±1           | 13.0                  | 15.0                  |
|        | 5          | 5G NR      | N41 (2496.0 – 2690.0 MHz)    | 3     | 14.0          | ±1           | 13.0                  | 15.0                  |
|        | 5          | 5G NR      | N41 (2496.0 – 2690.0 MHz)    | 2     | 14.0          | ±1           | 13.0                  | 15.0                  |
|        | 5          | 5G NR      | N66 (1710.0 – 1780.0 MHz)    | 3     | 18.0          | ±1           | 17.0                  | 19.0                  |
|        | 5          | 5G NR      | N77 (3700.0 – 3980.0 MHz)    | 3     | 15.0          | ±1           | 14.0                  | 16.0                  |
|        | 5          | 5G NR      | N77 (3700.0 – 3980.0 MHz)    | 2     | 15.0          | ±1           | 14.0                  | 16.0                  |
|        | 5          | 5G NR      | N78 (3700.0 – 3800.0 MHz)    | 3     | 13.0          | ±1           | 12.0                  | 14.0                  |
|        | 5          | 5G NR      | N78 (3700.0 – 3800.0 MHz)    | 3     | 13.0          | ±1           | 12.0                  | 14.0                  |
|        | 8          | 5G NR      | N2 (1850.0 – 1910.0 MHz)     | 3     | 17.0          | ±1           | 16.0                  | 18.0                  |
|        | 8          | 5G NR      | N38 (2570.0 – 2620.0 MHz)    | 3     | 13.5          | ±1           | 12.5                  | 14.5                  |
|        | 8          | 5G NR      | N41 (2496.0 – 2690.0 MHz)    | 3     | 13.0          | ±1           | 12.0                  | 14.0                  |
|        | 8          | 5G NR      | N41 (2496.0 – 2690.0 MHz)    | 2     | 13.0          | ±1           | 12.0                  | 14.0                  |
|        | 8          | 5G NR      | N66 (1710.0 – 1780.0 MHz)    | 3     | 18.0          | ±1           | 17.0                  | 19.0                  |
|        | 8          | 5G NR      | N77 (3700.0 – 3980.0 MHz)    | 3     | 14.0          | ±1           | 13.0                  | 15.0                  |
|        | 8          | 5G NR      | N77 (3700.0 – 3980.0 MHz)    | 2     | 14.0          | ±1           | 13.0                  | 15.0                  |
|        | 8          | 5G NR      | N78 (3700.0 – 3800.0 MHz)    | 3     | 14.5          | ±1           | 13.5                  | 15.5                  |
|        | 8          | 5G NR      | N78 (3700.0 – 3800.0 MHz)    | 3     | 14.5          | ±1           | 13.5                  | 15.5                  |

As mentioned in Section 3, the SAR compliance testing is performed at upper-threshold values of the algorithm, which is the maximum output power level for continuous time-averaging operations TAS algorithm enforces.

In TAS operation, the control parameters including the upper-threshold value are stored in NVM. They are inaccessible to the normal users and no other interface is available for changing these control parameters.

The table below shows the upper-threshold values used as continuous power for SAR testing as well as the different TAS parameters defined in [1] and [2] of section 3, to be embedded in the host:

| Mode   | Tx Antenna | Technology | Bands                        | Class | Nominal Full Power (dBm) | Upper Threshold (dBm) | Lower Threshold (dBm) | DPR_ON Power (dBm) |
|--------|------------|------------|------------------------------|-------|--------------------------|-----------------------|-----------------------|--------------------|
| Tablet | 5          | WCDMA/HSPA | FDD II (1850.0 – 1910.0 MHz) | 3     | 23.5                     | 15.5                  | 14.5                  | 13.5               |
|        | 5          | WCDMA/HSPA | FDD IV (1710.0 – 1755.0 MHz) | 3     | 23.5                     | 18.0                  | 17.0                  | 16.0               |
|        | 5          | WCDMA/HSPA | FDD V (824.0 – 849.0 MHz)    | 3     | 23.5                     | 19.5                  | 18.5                  | 17.5               |
|        | 5          | LTE        | B2 (1850.0 – 1910.0 MHz)     | 3     | 23.0                     | 15.5                  | 14.5                  | 13.5               |
|        | 5          | LTE        | B4 (1710.0 – 1755.0 MHz)     | 3     | 23.0                     | 18.0                  | 17.0                  | 16.0               |
|        | 5          | LTE        | B5 (824.0 – 849.0 MHz)       | 3     | 23.0                     | 19.5                  | 18.5                  | 17.5               |
|        | 5          | LTE        | B7 (2500.0 – 2570.0 MHz)     | 3     | 23.0                     | 13.0                  | 12.0                  | 11.0               |
|        | 5          | LTE        | B12 (699.0 – 716.0 MHz)      | 3     | 23.0                     | 18.5                  | 17.5                  | 16.5               |
|        | 5          | LTE        | B13 (777.0 – 787.0 MHz)      | 3     | 23.0                     | 18.5                  | 17.5                  | 16.5               |
|        | 5          | LTE        | B14 (788.0 – 798.0 MHz)      | 3     | 23.0                     | 18.5                  | 17.5                  | 16.5               |
|        | 5          | LTE        | B17 (704.0 – 716.0 MHz)      | 3     | 23.0                     | 18.5                  | 17.5                  | 16.5               |
|        | 5          | LTE        | B25 (1850.0 – 1915.0 MHz)    | 3     | 23.0                     | 15.5                  | 14.5                  | 13.5               |
|        | 5          | LTE        | B26 (814.0 – 849.0 MHz)      | 3     | 23.0                     | 19.0                  | 18.0                  | 17.0               |
|        | 5          | LTE        | B30 (2305.0 – 2315.0 MHz)    | 3     | 23.0                     | 16.0                  | 15.0                  | 14.0               |
|        | 5          | LTE        | B38 (2570.0 – 2620.0 MHz)    | 3     | 23.0                     | 14.0                  | 13.0                  | 12.0               |
|        | 5          | LTE        | B41 (2496.0 – 2690.0 MHz)    | 3     | 23.0                     | 15.0                  | 14.0                  | 13.0               |
|        | 5          | LTE        | B41 (2496.0 – 2690.0 MHz)    | 2     | 27.0                     | 15.0                  | 14.0                  | 13.0               |
|        | 5          | LTE        | B66 (1710.0 – 1780.0 MHz)    | 3     | 23.0                     | 18.0                  | 17.0                  | 16.0               |
|        | 8          | LTE        | B2 (1850.0 – 1910.0 MHz)     | 3     | 23.0                     | 18.0                  | 17.0                  | 16.0               |
|        | 8          | LTE        | B4 (1710.0 – 1755.0 MHz)     | 3     | 23.0                     | 18.0                  | 17.0                  | 16.0               |
|        | 8          | LTE        | B7 (2500.0 – 2570.0 MHz)     | 3     | 23.0                     | 13.0                  | 12.0                  | 11.0               |
|        | 8          | LTE        | B25 (1850.0 – 1915.0 MHz)    | 3     | 23.0                     | 18.0                  | 17.0                  | 16.0               |
|        | 8          | LTE        | B30 (2305.0 – 2315.0 MHz)    | 3     | 23.0                     | 15.5                  | 14.5                  | 13.5               |
|        | 8          | LTE        | B41 (2496.0 – 2690.0 MHz)    | 3     | 23.0                     | 13.0                  | 12.0                  | 11.0               |
|        | 8          | LTE        | B41 (2496.0 – 2690.0 MHz)    | 2     | 27.0                     | 13.0                  | 12.0                  | 11.0               |
|        | 8          | LTE        | B48 (3550.0 – 3700.0 MHz)    | 3     | 21.0                     | 14.0                  | 13.0                  | 12.0               |
|        | 8          | LTE        | B66 (1710.0 – 1780.0 MHz)    | 3     | 23.0                     | 17.5                  | 16.5                  | 15.5               |
|        | 5          | 5G NR      | N2 (1850.0 – 1910.0 MHz)     | 3     | 23.0                     | 15.5                  | 14.5                  | 13.5               |
|        | 5          | 5G NR      | N5 (824.0 – 849.0 MHz)       | 3     | 23.0                     | 19.5                  | 18.5                  | 17.5               |
|        | 5          | 5G NR      | N7 (2500.0 – 2570.0 MHz)     | 3     | 23.0                     | 13.0                  | 12.0                  | 11.0               |
|        | 5          | 5G NR      | N25 (1850.0 – 1915.0 MHz)    | 3     | 23.0                     | 15.5                  | 14.5                  | 13.5               |
|        | 5          | 5G NR      | N30 (2305.0 – 2315.0 MHz)    | 3     | 23.0                     | 17.0                  | 16.0                  | 15.0               |
|        | 5          | 5G NR      | N38 (2570.0 – 2620.0 MHz)    | 3     | 23.0                     | 14.0                  | 13.0                  | 12.0               |
|        | 5          | 5G NR      | N41 (2496.0 – 2690.0 MHz)    | 3     | 23.0                     | 15.0                  | 14.0                  | 13.0               |
|        | 5          | 5G NR      | N41 (2496.0 – 2690.0 MHz)    | 2     | 23.0                     | 15.0                  | 14.0                  | 13.0               |
|        | 5          | 5G NR      | N66 (1710.0 – 1780.0 MHz)    | 3     | 23.0                     | 18.0                  | 17.0                  | 16.0               |
|        | 5          | 5G NR      | N77 (3700.0 – 3980.0 MHz)    | 3     | 23.0                     | 15.0                  | 14.0                  | 13.0               |
|        | 5          | 5G NR      | N77 (3700.0 – 3980.0 MHz)    | 2     | 27.0                     | 15.0                  | 14.0                  | 13.0               |
|        | 5          | 5G NR      | N78 (3700.0 – 3800.0 MHz)    | 3     | 23.0                     | 13.0                  | 12.0                  | 11.0               |
|        | 5          | 5G NR      | N78 (3700.0 – 3800.0 MHz)    | 3     | 27.0                     | 13.0                  | 12.0                  | 11.0               |
|        | 8          | 5G NR      | N2 (1850.0 – 1910.0 MHz)     | 3     | 23.0                     | 17.0                  | 16.0                  | 15.0               |
|        | 8          | 5G NR      | N38 (2570.0 – 2620.0 MHz)    | 3     | 23.0                     | 13.5                  | 12.5                  | 11.5               |
|        | 8          | 5G NR      | N41 (2496.0 – 2690.0 MHz)    | 3     | 23.0                     | 13.0                  | 12.0                  | 11.0               |
|        | 8          | 5G NR      | N41 (2496.0 – 2690.0 MHz)    | 2     | 27.0                     | 13.0                  | 12.0                  | 11.0               |
|        | 8          | 5G NR      | N66 (1710.0 – 1780.0 MHz)    | 3     | 23.0                     | 18.0                  | 17.0                  | 16.0               |
|        | 8          | 5G NR      | N77 (3700.0 – 3980.0 MHz)    | 3     | 23.0                     | 14.0                  | 13.0                  | 12.0               |
|        | 8          | 5G NR      | N77 (3700.0 – 3980.0 MHz)    | 2     | 27.0                     | 14.0                  | 13.0                  | 12.0               |
|        | 8          | 5G NR      | N78 (3700.0 – 3800.0 MHz)    | 3     | 23.0                     | 14.5                  | 13.5                  | 12.5               |
|        | 8          | 5G NR      | N78 (3700.0 – 3800.0 MHz)    | 3     | 27.0                     | 14.5                  | 13.5                  | 12.5               |

SAR compliance is demonstrated with the *Reported SAR*:  $\text{Reported SAR} = \text{measured 1gSAR} @ \text{Reported Upper Threshold} < \text{FCC SAR limit}$  where,  $\text{Reported Upper Threshold} = \text{Upper Threshold (stored in NVM)} + \text{Tolerance}$

## 7. Remarks and comments

- Only the plots for the test positions with the highest measured SAR per band/mode are included in Annex C as required per FCC OET KDB 865664 D02, paragraph 2.3.h.
- Maximum transmission power on modulations 64QAM and 256QAM for LTE and 5G NR, are lower than other modulations QPSK and 16QAM. Therefore, according to engineering evaluation, we choose higher power modulations to perform all tests shown in the report

## 8. Test Verdicts summary

The statement of conformity to applicable standards in the table below are based on the measured values, without taking into account the measurement uncertainties.

| Mode          | Band (UL)                     | Highest Reported SAR (1g) (W/kg) | Verdict |
|---------------|-------------------------------|----------------------------------|---------|
| WCDMA         | FDD II (1850.0 – 1910.0 MHz)  | 0.97                             | P       |
|               | FDD IV (1710.0 – 1755.0 MHz)  | 0.94                             | P       |
|               | FDD V (824.0 – 849.0 MHz)     | 0.95                             | P       |
| LTE FDD       | Band 2 (1850.0 – 1910.0 MHz)  | NM                               | NA      |
|               | Band 4 (1710.0 – 1755.0 MHz)  | NM                               | NA      |
|               | Band 5 (824.0 – 849.0 MHz)    | 1.16                             | P       |
|               | Band 7 (2500.0 – 2570.0 MHz)  | 1.41                             | P       |
|               | Band 12 (699.0 – 716.0 MHz)   | 1.10                             | P       |
|               | Band 13 (777.0 – 787.0 MHz)   | 1.23                             | P       |
|               | Band 14 (788.0 – 798.0 MHz)   | 1.22                             | P       |
|               | Band 17 (704.0 – 716.0 MHz)   | NM                               | NA      |
|               | Band 25 (1850.0 – 1915.0 MHz) | 1.09                             | P       |
|               | Band 26 (814.0 – 849.0 MHz)   | 0.79                             | P       |
|               | Band 30 (2305.0 – 2315.0 MHz) | 1.04                             | P       |
|               | Band 66 (1710.0 – 1780.0 MHz) | 0.94                             | P       |
|               | Band 38 (2570.0 – 2620.0 MHz) | NM                               | NA      |
|               | Band 41 (2496.0 – 2690.0 MHz) | 0.77                             | P       |
| LTE TDD       | Band 48 (3550.0 – 3700.0 MHz) | 0.36                             | P       |
|               | Band 2 (1850.0 – 1910.0 MHz)  | 1.04                             | P       |
|               | Band 5 (824.0 – 849.0 MHz)    | 1.13                             | P       |
| 5G NR FR1 FDD | Band 7 (2500.0 – 2570.0 MHz)  | 1.32                             | P       |
|               | Band 25 (1850.0 – 1915.0 MHz) | 1.19                             | P       |
|               | Band 30 (2305.0 – 2315.0 MHz) | 1.01                             | P       |
|               | Band 66 (1710.0 – 1780.0 MHz) | 1.05                             | P       |
|               | Band 38 (2570.0 – 2620.0 MHz) | 1.13                             | P       |
| 5G NR FR1 TDD | Band 41 (2496.0 – 2690.0 MHz) | 1.18                             | P       |
|               | Band 77 (3700.0 – 3980.0 MHz) | 0.32                             | P       |
|               | Band 78 (3700.0 – 3800.0 MHz) | 0.47                             | P       |

P: Pass

F: Fail

NM: Not Measured

NA: Not Applicable

According to the FCC OET KDB 690783 D01, this is the summary of the values for the Grant Listing:

| Highest Reported SAR (1g) (W/kg) |                              |                              |                              |                              |
|----------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| Exposure Condition               | Equipment Class              |                              |                              |                              |
|                                  | PCE                          | DTS                          | DSS                          | U-NII                        |
| Body Worn                        | 1.41                         | 1.17                         | 0.40                         | 0.92                         |
| Simultaneous Tx                  | Sum-SAR: 3.86<br>SPLSR: 0.04 | Sum-SAR: 3.15<br>SPLSR: 0.04 | Sum-SAR: 3.86<br>SPLSR: 0.03 | Sum-SAR: 3.86<br>SPLSR: 0.03 |

Considering the results of the performed test according to FCC 47CFR Part 2.1093 the item under test is IN COMPLIANCE with the requested specifications specified in Section1. Standards, reference documents and applicable test methods

## 9. Document Revision History

| Revision # | Modified by         | Revision Details |
|------------|---------------------|------------------|
| Rev. 00    | E. Garcia; A.Lounes | First Issue      |

# Annex A. Test & System Description

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## A.1 SAR Definition

Specific Absorption rate is defined as the time derivative of the incremental energy (dW) absorbed by (dissipated in) and incremental mass (dm) contained in a volume element (dV) of a given density ( $\rho$ ).

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

SAR is expressed in units of watts per kilogram (W/kg). SAR can be related to the electric field at a point by

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

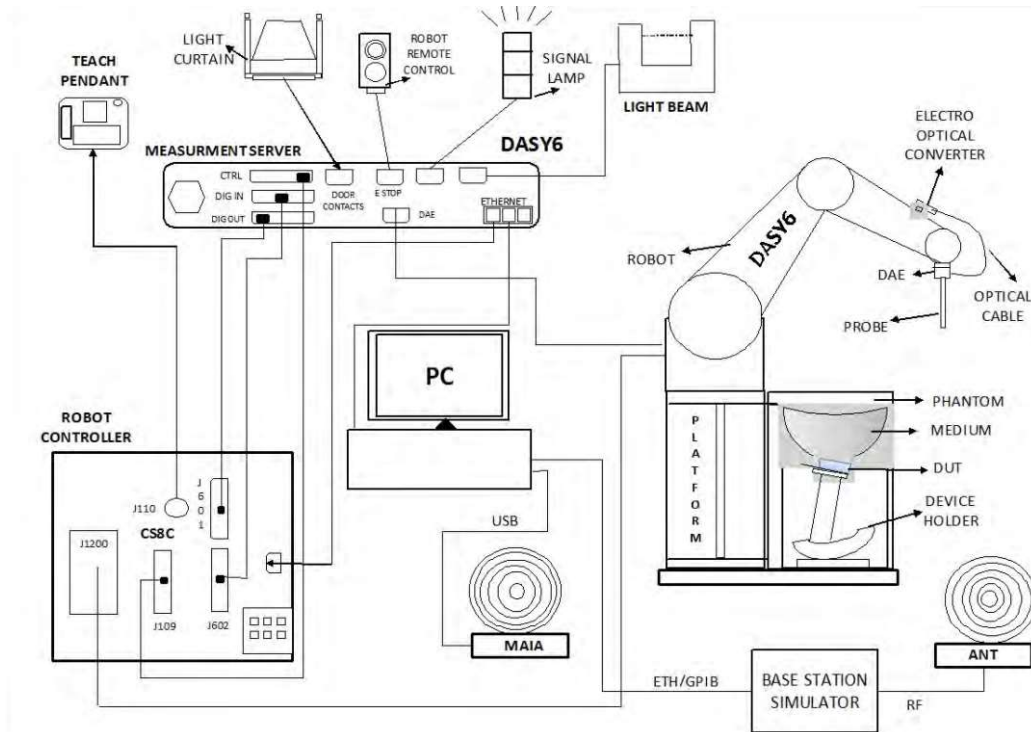
Where:

$\sigma$  = Conductivity of the tissue (S/m)  
 $\rho$  = Mass density of the tissue (kg/m<sup>3</sup>)  
E = RMS electric field strength (V/m)

## A.2 SAR Measurement System

### A.2.1 SAR Measurement Setup

The DASY6 system for performing compliance tests consists of the following items:



- ✓ A standard high precision 6-axis robot (Stäubli TX/RX family) with controller, teach pendant and software. It includes an arm extension for accommodating the data acquisition electronics (DAE)
- ✓ An isotropic field probe optimized and calibrated for the targeted measurements.
- ✓ A data acquisition electronics (DAE) which performs the signal amplification, signal multiplexing, AD-conversion, offset measurements, mechanical surface detection, collision detection, etc. The unit is battery powered with standard or rechargeable batteries. The signal is optically transmitted to the EOC.
- ✓ The Electro-optical Converter (EOC) performs the conversion from optical to electrical signals for the digital communication to the DAE. The EOC signal is transmitted to the measurement server.
- ✓ The function of the measurement server is to perform the time critical tasks such as signal filtering, control of the robot operation and fast movements interrupts.
- ✓ The Light Beam used is for probe alignment. This improves the (absolute) accuracy of the probe positioning.
- ✓ A computer running Win7 professional operating system and the DASY6 software.
- ✓ Remote control and teach pendant as well as additional circuitry for robot safety such as warning lamps, etc.
- ✓ The phantom, the device holder and other accessories according to the targeted measurement.
- ✓ MAIA is a hardware interface (Antenna) used to evaluate the modulation and audio interference characteristics of RF signals.
- ✓ ANT is an ultra-wideband antenna for use with the base station simulators over 698 MHz to 6GHz.
- ✓ The base station simulator is an equipment used for SAR cellular tests in order to emulate the cellular signals characteristics and behavior between a regular base station and the equipment under test.
- ✓ Tissue simulating liquid.
- ✓ System Validation dipoles.
- ✓ Network emulator.



### A.2.2 E-Field Measurement Probe

The probe is constructed using three orthogonal dipole sensors arranged on an interlocking, triangular prism core. The probe has built-in shielding against static charges and is contained within a PEEK cylindrical enclosure material at the tip.



The probe's characteristics are:

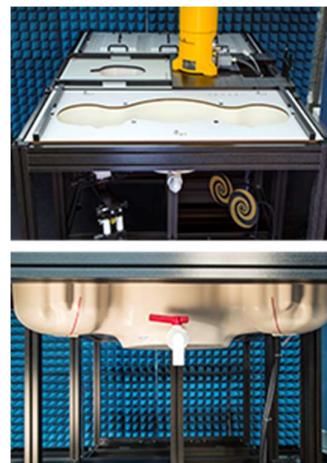
|                                                      |              |
|------------------------------------------------------|--------------|
| Frequency Range                                      | 30MHz – 6GHz |
| Length                                               | 337 mm       |
| Probe tip external diameter                          | 2.5 mm       |
| Typical distance between dipoles and the probe tip   | 1 mm         |
| Axial Isotropy (in human-equivalent liquids)         | $\pm 0.3$ dB |
| Hemispherical Isotropy (in human-equivalent liquids) | $\pm 0.5$ dB |
| Linearity                                            | $\pm 0.2$ dB |
| Maximum operating SAR                                | 100 W/kg     |
| Lower SAR detection threshold                        | 0.001 W/kg   |

### A.2.3 SAM Phantom

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.

The phantom's characteristics are:

|                        |                                            |
|------------------------|--------------------------------------------|
| Material               | Vinylester, glass fiber reinforced (VE-GF) |
| Shell thickness        | 2 mm $\pm$ 0.2 mm                          |
| Shell thickness at ERP | 6 $\pm$ 0.2 mm                             |
| Filling volume         | 25 Liters                                  |
| Dimensions             | Length: 1000mm / Width: 500mm              |

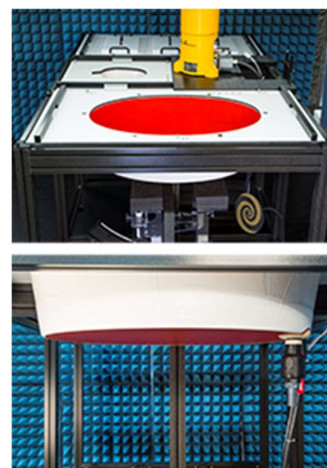


### A.2.4 Flat Phantom

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.

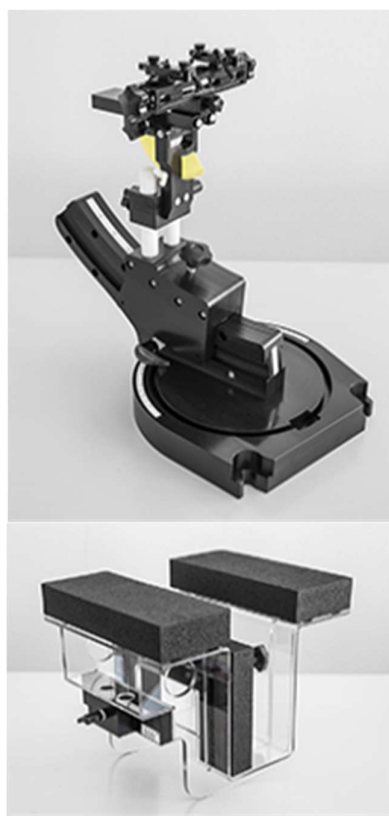
The phantom's characteristics are:

|                 |                                            |
|-----------------|--------------------------------------------|
| Material        | Vynylester, glass fiber reinforced (VE-GF) |
| Shell thickness | 2 mm $\pm$ 0.2 mm                          |
| Filling volume  | 30 Liters approx.                          |
| Dimensions      | Major axis: 600mm / Minor axis: 400mm      |



### A.2.5 Device Positioner

The SAR in the phantom is approximately inversely proportional to the square of the distance between the source and the liquid surface. For a source at 5 mm distance, a positioning uncertainty of 0.5 mm would produce a SAR uncertainty of 20%. Accurate device positioning is therefore crucial for accurate and repeatable measurements. The positions in which the devices must be measured are defined by the standards.



The DASy device holder is designed to cope with the different positions given in the standard. It has two scales for device rotation (with respect to the body axis) and device inclination (with respect to the line between the ear reference points). The rotation center for both scales is the ear reference point (ERP). Thus the device needs no repositioning when changing the angles.

The DASy device holder is constructed of low-loss POM material having the following dielectric parameters: relative permittivity  $\epsilon=3$  and loss tangent  $\delta=0.02$ . The amount of dielectric material has been reduced in the closest vicinity of the device, since measurements have suggested that the influence of the clamp on the test results could thus be lowered.

A simple but effective and easy-to-use extension for the Mounting Device; facilitates testing of larger devices according to IEC 62209-2 (e.g., laptops, cameras, etc.); lightweight and fits easily on the upper part of the Mounting Device in place of the phone positioner. The extension is fully compatible with the Twin SAM, ELI and other Flat Phantoms.

### A.3 Data Evaluation

- **Power Reference measurement**

The robot measures the E field in a specified reference position that can be either the selected section's grid reference point or a user point in this section at 4mm of the inner surface of the phantom, 2mm for frequencies above 3GHz.

- **Area Scan**

Measurement procedures for evaluating SAR from wireless handsets typically start with a coarse measurement grid to determine the approximate location of the local peak SAR values. This is known as the area-scan procedure. The SAR distribution is scanned along the inside surface of one side of the phantom head, at least for an area larger than the projection of the handset and antenna. The distance between the measured points and phantom surface should be less than 8 mm, and should remain constant (with variation less than  $\pm 1$  mm) during the entire scan in order to determine the locations of the local peak SAR with sufficient accuracy. The angle between the probe axis and the surface normal line is recommended but not required to be less than  $30^\circ$ . If this angle is larger than  $30^\circ$  and the closest point on the probe-tip housing to the phantom surface is closer than a probe diameter, the boundary effect may become larger and polarization dependent. This additional uncertainty needs to be analyzed and accounted for. To achieve this, modified test procedures and additional uncertainty analyses not described in this recommended practice may be required. The measurement and interpolation point spacing should be chosen such as to allow identification of the local peak locations to within one-half of the linear dimension of a side of the zoom-scan volume. Because a local peak having specific amplitude and steep gradients may produce a lower peak spatial-average SAR compared to peaks with slightly lower amplitude and less steep gradients, it is necessary to evaluate these other peaks as well. However, since the spatial gradients of local SAR peaks are a function of the wavelength inside the tissue-equivalent liquid and the incident magnetic field strength, it is not necessary to evaluate local peaks that are less than 2 dB or more below the global maximum peak. Two-dimensional spline algorithms (Brishoual et al. 2001; Press et al., 1996) are typically used to determine the peaks and gradients within the scanned area. If a peak is found at a distance from the scan border of less than one-half the edge dimension of the desired 1 g or 10 g cube, the measurement area should be enlarged if possible.

- **Zoom Scan**

To evaluate the peak spatial-average SAR values for 1 g or 10 g cubes, fine resolution volume scans, called zoom scans, are performed at the peak SAR locations identified during the area scan. The minimum zoom scan volume size should extend at least 1.5 times the edge dimension of a 1 g cube in all directions from the center of the scan volume, for both 1 g and 10 g peak spatial-average SAR evaluations. Along the phantom curved surfaces, the front face of the volume facing the tissue/liquid interface conforms to the curved boundary, to ensure that all SAR peaks are captured. The back face should be equally distorted to maintain the correct averaging mass. The flatness and orientation of the four side faces are unchanged from that of a cube whose orientation is within  $\pm 30^\circ$  of the line normal to the phantom at the center of the cube face next to the phantom surface. The peak local SAR locations that were determined in the area scan (interpolated values) should be used for the centers of the zoom scans. If a scan volume cannot be centered due to proximity of a phantom shape feature, the probe should be tilted to allow scan volume enlargement. If probe tilt is not feasible, the zoom-scan origin may be shifted, but not by more than half of the 1 g or 10 g cube edge dimension.

After the zoom-scan measurement, extrapolations from the closest measured points to the surface, for example along lines parallel to the zoom-scan centerline, and interpolations to a finer resolution between all measured and extrapolated points are performed. Extrapolation algorithm considerations are described in 6.5.3, and 3-D spline methods (Brishoual et al., 2001; Kreyszig, 1983; Press et al., 1996) can be used for interpolation. The peak spatial-average SAR is finally determined by a numerical averaging of the local SAR values in the interpolation grid, using for example a trapezoidal algorithm for the integration (averaging).

In some areas of the phantom, such as the jaw and upper head regions, the angle of the probe with respect to the line normal to the surface may be relatively large, e.g., greater than  $\pm 30^\circ$ , which could increase the boundary effect error to a larger level. In these cases, during the zoom scan a change in the orientation of the probe, the phantom, or both is recommended but not required for the duration of the zoom scan, so that the angle between the probe axis and the line normal to the surface is within  $30^\circ$  for all measurement points.

- **Power Drift measurement**

The robot re-measures the E-Field in the same reference location measured at the Power Reference. The drift measurement gives the field difference in dB from the first to the last reference reading. This allows a user to monitor the power drift of the device under test that must remain within a maximum variation of  $\pm 5\%$ .

- **Post-processing**

The procedure for spatial peak SAR evaluation has been implemented according to the IEEE1528 and IEC 62209-1/2 standards. It can be conducted for 1g and 10g.

The software allows evaluations that combine measured data and robot positions, such as:

- ✓ Maximum search
- ✓ Extrapolation
- ✓ Boundary correction
- ✓ Peak search for averaged SAR

Interpolation between the measured points is performed when the resolution of the grid is not fine enough to compute the average SAR over a given mass.

Extrapolation routines are used to obtain SAR values between the lowest measurement points and the inner phantom surface. The extrapolation is determined by the surface detection distance and the probe sensor offset. Several measurements at different distances are necessary for the extrapolation.

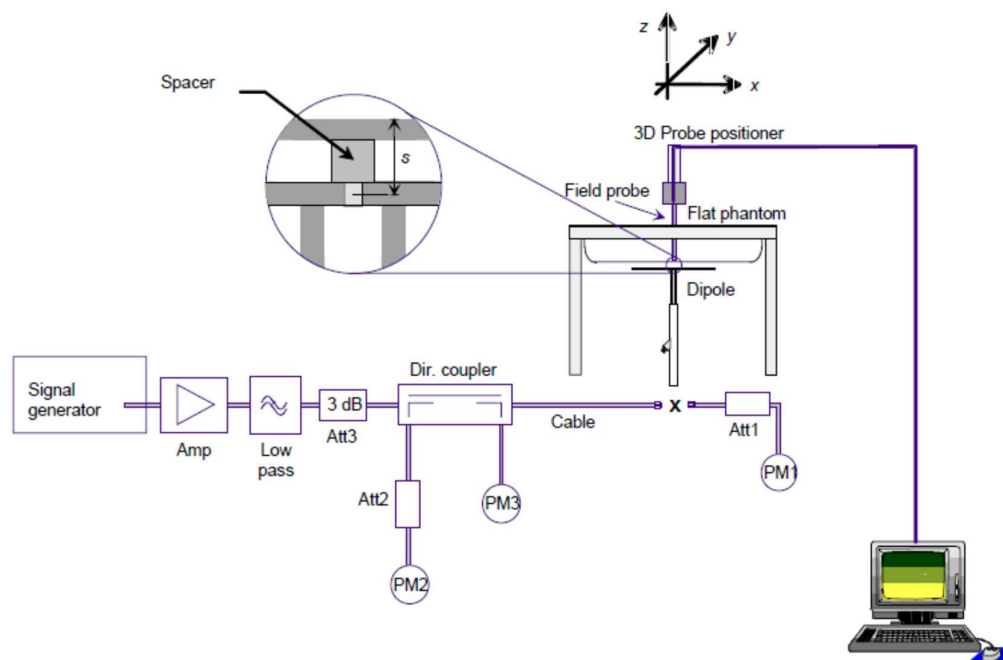
## A.4 System and Liquid Check

### A.4.1 System Check

The system performance check verifies that the system operates within its specifications. System and operator errors can be detected and corrected. It is recommended that the system performance check be performed prior to any usage of the system in order to guarantee reproducible results.

The system performance check uses normal SAR measurements in a simplified setup with a well characterized source. This setup was selected to give a high sensitivity to all parameters that might fail or vary over time. The system check does not intend to replace the calibration of the components, but indicates situations where the system uncertainty is exceeded due to drift or failure.

In the simplified setup for system check, the EUT is replaced by a calibrated dipole and the power source is replaced by a controlled continuous wave generated by a signal generator. The calibrated dipole must be placed beneath the flat phantom section of the phantom at the correct distance.



The equipment setup is shown below:

- ✓ Signal Generator
- ✓ Amplifier
- ✓ Directional coupler
- ✓ Power meter
- ✓ Calibrated dipole

First, the power meter PM1 (including attenuator Att1) is connected to the cable to measure the forward power at the location of the connector (x) to the system check source. The signal generator is adjusted for the desired forward power at the connector as read by power meter PM1 after attenuation Att1 and also as coupled through Att2 to PM2. After connecting the cable to the source, the signal generator is readjusted for the same reading at power meter PM2.

SAR results are normalized to a forward power of 1W to compare the values with the calibration reports results as described at IEEE 1528 and IEC 62209 standards.

### A.4.2 Liquid Check

The dielectric parameters check is done prior to the use of the tissue simulating liquid. The verification is made by comparing the relative permittivity and conductivity to the values recommended by the applicable standards.

The liquid verification was performed using the following test setup:

- ✓ VNA (Vector Network Analyzer)
- ✓ Open-Short-Load calibration kit
- ✓ RF Cable
- ✓ Open-Ended Coaxial probe
- ✓ DAK software tool
- ✓ SAR Liquid
- ✓ De-ionized water
- ✓ Thermometer

These are the target dielectric properties of the tissue-equivalent liquid material as defined in FCC OET KDB 865664 D01.

| Frequency<br>(MHz) | Body SAR           |                |
|--------------------|--------------------|----------------|
|                    | $\epsilon_r$ (F/m) | $\sigma$ (S/m) |
| 150                | 61.9               | 0.80           |
| 300                | 58.2               | 0.92           |
| 450                | 56.7               | 0.94           |
| 835                | 55.2               | 0.97           |
| 900                | 55.0               | 1.05           |
| 1450               | 54.0               | 1.30           |
| 1800-2000          | 53.3               | 1.52           |
| 2450               | 52.7               | 1.95           |
| 3000               | 52.0               | 2.73           |
| 5800               | 48.2               | 6.00           |

( $\epsilon_r$  = relative permittivity,  $\sigma$  = conductivity and  $\rho$  = 1000 kg/m<sup>3</sup>)

The measurement system implement a SAR error compensation algorithm as documented in IEEE Std 1528-2013 (equivalent to draft standard IEEE P1528-2011) to automatically compensate the measured SAR results for deviations between the measured and required tissue dielectric parameters (applied to only scale up the measured SAR, and not downward) so, according to FCC OET KDB 865664 D01, the tolerance for  $\epsilon_r$  and  $\sigma$  may be relaxed to  $\pm 10\%$ .

## A.5 Test Equipment List

### A.5.1 SAR System #2

The system 2 was used for WCDMA and LTE tests.

| ID #    | Device                       | Type/Model                  | Serial Number   | Manufacturer | Cal. Date  | Cal. Due Date |
|---------|------------------------------|-----------------------------|-----------------|--------------|------------|---------------|
| 002-008 | Data Acquisition Electronics | DAE4                        | 1429            | SPEAG        | 2021-05-11 | 2022-05-11    |
| 002-009 | Dosimetric E-Field probe     | EX3DV4                      | 3978            | SPEAG        | 2021-05-22 | 2022-05-22    |
| 002-000 | 6-axis Robot                 | TX60 L                      | F16/55FXA1/A/01 | STAÜBLI      | n/a        | n/a           |
| 002-001 | Robot Controller             | CS8C                        | F16/55FXA1/C/01 | STAÜBLI      | n/a        | n/a           |
| 002-002 | Measurement Server           | DASY6<br>P/N: SE UMS 028 BB | 1489            | SPEAG        | n/a        | n/a           |
| 002-003 | Electro-Optical Converter    | EOC60                       | 1098            | SPEAG        | n/a        | n/a           |
| 002-004 | Light Beam Unit              | SE UKS 030 AA               | -               | Di-soric     | n/a        | n/a           |
| 002-005 | Oval Flat Phantom            | ELI v8.0                    | 2048            | SPEAG        | n/a        | n/a           |
| 002-007 | Measurement SW               | DASY v6.14                  | 9-5DEE27C2      | SPEAG        | n/a        | n/a           |
| 002-006 | Laptop Holder                | P/N SM LH1 001 CD           | -               | SPEAG        | n/a        | n/a           |

### A.5.2 SAR System #4

The system 4 was used for 5G NR tests.

| ID #    | Device                       | Type/Model                  | Serial Number   | Manufacturer | Cal. Date  | Cal. Due Date |
|---------|------------------------------|-----------------------------|-----------------|--------------|------------|---------------|
| 002-008 | Data Acquisition Electronics | DAE4                        | 1628            | SPEAG        | 2021-05-11 | 2022-05-11    |
| 002-009 | Dosimetric E-Field probe     | EX3DV4                      | 7604            | SPEAG        | 2021-05-22 | 2022-05-22    |
| 085-000 | Data Acquisition Electronics | DAE4                        | 1517            | SPEAG        | 2021-03-11 | 2022-03-11    |
| 086-000 | Dosimetric E-Field probe     | EX3DV4                      | 7455            | SPEAG        | 2021-03-20 | 2022-03-20    |
| 004-000 | 6-axis Robot                 | TX90 XL                     | F11/5JL2A1/A/01 | STAÜBLI      | n/a        | n/a           |
| 004-001 | Robot Controller             | CS8C                        | F11/5JL2A1/C/01 | STAÜBLI      | n/a        | n/a           |
| 004-005 | Measurement Server           | DASY6<br>P/N: SE UMS 028 BB | -               | SPEAG        | n/a        | n/a           |
| 004-004 | Light Beam Unit              | SE UKS 030 AA               | 1030            | Di-soric     | n/a        | n/a           |
| 004-002 | Oval Flat Phantom            | ELI v8.0                    | 2124            | SPEAG        | n/a        | n/a           |
| 004-005 | Measurement SW               | DASY6<br>16.0               | 9-658E90FA      | SPEAG        | n/a        | n/a           |
| 004-010 | Laptop Holder                | P/N SM LH1 001 CD           | -               | SPEAG        | n/a        | n/a           |
| 458-000 | Automation SW                | SARA v2.2                   | -               | Intel        | n/a        | n/a           |

### A.5.3 Shared Instrumentation

| ID #     | Device                            | Type/Model         | Serial Number | Manufacturer   | Cal. Date  | Cal. Due Date |
|----------|-----------------------------------|--------------------|---------------|----------------|------------|---------------|
| 123-000  | USB Power Sensor                  | NRP-Z81            | 102278        | R&S            | 2021-04-13 | 2023-04-13    |
| 124-000  | USB Power Sensor                  | NRP-Z81            | 102279        | R&S            | 2021-04-13 | 2023-04-13    |
| 135-000  | Network Emulator                  | CMW500             | 152721        | R&S            | 2020-03-26 | 2022-03-26    |
| 023-000  | 5G Network Emulator               | CMX500             | 101444        | R&S            | 2020-08-24 | 2022-08-24    |
| 126-000  | Vector Signal Generator           | ESG E4438C         | MY45092885    | Agilent        | 2021-05-27 | 2023-05-27    |
| 099-000  | Liquid measurement SW             | DAK-3.5 V2.6.0.5   | 9-2687B491    | SPEAG          | n/a        | n/a           |
| 339-000  | Vector Network Analyzer           | ZNB 40             | 101740        | R&S            | 2020-07-10 | 2022-07-10    |
| 071-000  | 750 MHz System Validation Dipole  | D750V3             | 1136          | SPEAG          | 2021-01-21 | 2023-01-21    |
| 072-000  | 835 MHz System Validation Dipole  | D835V2             | 4d192         | SPEAG          | 2021-01-21 | 2023-01-21    |
| 073-000  | 1750 MHz System Validation Dipole | D1750V2            | 1133          | SPEAG          | 2021-01-14 | 2023-01-14    |
| 074-000  | 1900 MHz System Validation Dipole | D1900V2            | 5d197         | SPEAG          | 2021-01-14 | 2023-01-14    |
| 075-000  | 2300 MHz System Validation Dipole | D2300V2            | 1046          | SPEAG          | 2021-01-13 | 2023-01-13    |
| 076-000  | 2600 MHz System Validation Dipole | D2600V2            | 1100          | SPEAG          | 2021-01-13 | 2023-01-13    |
| 404-000  | 3700 MHz System Validation Dipole | D3700V2            | 1093          | SPEAG          | 2021-05-21 | 2023-05-21    |
| 327-000  | Temperature & Humidity Logger     | RA32E-TH1-RAS      | RA32-F0DED9   | AVTECH         | 2021-03-09 | 2023-03-09    |
| 095-000* | Thermometer                       | 925                | 34822881      | Testo          | 2019-11-19 | 2021-11-19    |
| 398-000  | Thermometer                       | 922                | 33622932/208  | Testo          | 2021-11-09 | 2023-11-19    |
| 198-000  | 0.8-21GHz RF amplifier            | TVA-82-213A        | 2004003       | Mini-Circuits  | 2021-08-13 | 2022-02-13    |
| 078-000  | RF Cable                          | ST-18/SMAm/SMAm/48 | 1158830       | Huber & Suhner | 2021-08-13 | 2022-02-13    |
| 079-000  | RF Cable                          | ST-18/SMAm/SMAm/48 | 1158831       | Huber & Suhner | 2021-08-13 | 2022-02-13    |
| 077-000  | Coupler                           | CD0.5-8-20-30      | 1251-002      | Amd-group      | 2021-08-13 | 2022-02-13    |

\*Equipment used only during the calibration period

### A.5.4 Tissue Simulant Liquid

| TSL                    | Manufacturer / Model                 | Freq Range (MHz) | Main Ingredients                                                                                         | Note                         |
|------------------------|--------------------------------------|------------------|----------------------------------------------------------------------------------------------------------|------------------------------|
| Body WideBand System2  | SPEAG MBBL600-6000V6 Batch 160603-01 | 600-6000         | Ethanediol, Sodium petroleum sulfonate, Hexylene Glycol / 2-Methyl-pentane-2.4-diol, Alkoxylated alcohol | Used for WCDMA and LTE tests |
| Body WideBand System 4 | SPEAG MBBL600-6000V6 Batch 160630-01 | 600-6000         | Ethanediol, Sodium petroleum sulfonate, Hexylene Glycol / 2-Methyl-pentane-2.4-diol, Alkoxylated alcohol | Used for 5G NR tests         |



## A.6 Measurement Uncertainty Evaluation

The system uncertainty evaluation is shown in the table below with a coverage factor of  $k = 2$  to indicate a 95% level of confidence:

| SPEAG DASY6 Uncertainty Budget<br>According to IEC/IEEE 62209-1528 (4 MHz - 6 GHz)<br>including IEEE 1528-2013 and IEC 62209-1/2016, IEC 62209-2/2010 |                                     |               |             |            |         |          |                                 |                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------------|-------------|------------|---------|----------|---------------------------------|---------------------------------|
| Symbol                                                                                                                                                | Error Description                   | Uncert. Value | Prob. Dist. | Div.       | (ci) 1g | (ci) 10g | Std Unc. (1g)                   | Std Unc. (10g)                  |
| <b>Measurement System Errors</b>                                                                                                                      |                                     |               |             |            |         |          |                                 |                                 |
| CF                                                                                                                                                    | Probe Calibration                   | $\pm 14.0 \%$ | N           | 2          | 1       | 1        | $\pm 7.0 \%$                    | $\pm 7.0 \%$                    |
| CF <sub>drift</sub>                                                                                                                                   | Probe Calibration Drift             | $\pm 1.0 \%$  | N           | 1          | 1       | 1        | $\pm 1.0 \%$                    | $\pm 1.0 \%$                    |
| LIN                                                                                                                                                   | Probe Linearity                     | $\pm 4.7 \%$  | R           | $\sqrt{3}$ | 1       | 1        | $\pm 2.7 \%$                    | $\pm 2.7 \%$                    |
| BBS                                                                                                                                                   | Broadband Signal                    | $\pm 3.0 \%$  | N           | 2          | 1       | 1        | $\pm 1.5 \%$                    | $\pm 1.5 \%$                    |
| ISO                                                                                                                                                   | Axial Isotropy                      | $\pm 4.7 \%$  | R           | $\sqrt{3}$ | 0.5     | 0.5      | $\pm 1.4 \%$                    | $\pm 1.4 \%$                    |
| ISO                                                                                                                                                   | Hemispherical Isotropy              | $\pm 9.6 \%$  | R           | $\sqrt{3}$ | 0.5     | 0.5      | $\pm 2.8 \%$                    | $\pm 2.8 \%$                    |
| DAE                                                                                                                                                   | Data Acquisition                    | $\pm 0.3 \%$  | N           | 1          | 1       | 1        | $\pm 0.3 \%$                    | $\pm 0.3 \%$                    |
| AMB                                                                                                                                                   | RF Ambient                          | $\pm 1.8 \%$  | N           | 1          | 1       | 1        | $\pm 1.8 \%$                    | $\pm 1.8 \%$                    |
| $\Delta_{sys}$                                                                                                                                        | Probe Positioning                   | $\pm 0.2 \%$  | N           | 1          | 0.33    | 0.33     | $\pm 0.1 \%$                    | $\pm 0.1 \%$                    |
| DAT                                                                                                                                                   | Data Processing                     | $\pm 2.3 \%$  | N           | 1          | 1       | 1        | $\pm 2.3 \%$                    | $\pm 2.3 \%$                    |
| <b>Phantom and Device Errors</b>                                                                                                                      |                                     |               |             |            |         |          |                                 |                                 |
| LIQ( $\sigma$ )                                                                                                                                       | Conductivity (meas.) <sub>DAK</sub> | $\pm 2.5 \%$  | N           | 1          | 0.78    | 0.71     | $\pm 2.0 \%$                    | $\pm 1.8 \%$                    |
| LIQ( $T\sigma$ )                                                                                                                                      | Conductivity (temp.) <sub>BB</sub>  | $\pm 3.4 \%$  | R           | $\sqrt{3}$ | 0.78    | 0.71     | $\pm 1.5 \%$                    | $\pm 1.4 \%$                    |
| EPS                                                                                                                                                   | Phantom Permittivity                | $\pm 14.0 \%$ | R           | $\sqrt{3}$ | 0.25    | 0.25     | $\pm 2.0 \%$                    | $\pm 2.0 \%$                    |
| DAS                                                                                                                                                   | Distance DUT - TSL                  | $\pm 2.0 \%$  | N           | 1          | 2       | 2        | $\pm 4.0 \%$                    | $\pm 4.0 \%$                    |
| H                                                                                                                                                     | Device Holder                       | $\pm 3.6 \%$  | N           | 1          | 1       | 1        | $\pm 3.6 \%$                    | $\pm 3.6 \%$                    |
| MOD                                                                                                                                                   | DUT Modulation <sub>m</sub>         | $\pm 2.4 \%$  | R           | $\sqrt{3}$ | 1       | 1        | $\pm 1.4 \%$                    | $\pm 1.4 \%$                    |
| TAS                                                                                                                                                   | Time-average SAR                    | $\pm 2.6 \%$  | R           | $\sqrt{3}$ | 1       | 1        | $\pm 1.5 \%$                    | $\pm 1.5 \%$                    |
| RF <sub>drift</sub>                                                                                                                                   | DUT drift                           | $\pm 5.0 \%$  | N           | 1          | 1       | 1        | $\pm 2.9 \%$                    | $\pm 2.9 \%$                    |
| <b>Correction to the SAR results</b>                                                                                                                  |                                     |               |             |            |         |          |                                 |                                 |
| C( $\epsilon, \sigma$ )                                                                                                                               | Deviation to Target                 | $\pm 1.9 \%$  | N           | 1          | 1       | 0.84     | $\pm 1.9 \%$                    | $\pm 1.6 \%$                    |
| Combined Std. Uncertainty                                                                                                                             |                                     |               |             |            |         |          | $\pm 11.5 \%$                   | $\pm 11.4 \%$                   |
| <b>Expanded STD Uncertainty</b>                                                                                                                       |                                     |               |             |            |         |          | <b><math>\pm 23.1 \%</math></b> | <b><math>\pm 22.9 \%</math></b> |

## A.7 RF Exposure Limits

SAR assessments have been made in line with the requirements of FCC 47 CFR Part 2.1093 on the limitation of exposure of the general population / uncontrolled exposure for portable devices.

| Exposure Type                                                                    | General Population /<br>Uncontrolled Environment |
|----------------------------------------------------------------------------------|--------------------------------------------------|
| Peak spatial-average SAR<br>(averaged over any 1 gram of tissue)                 | <b>1.6 W/kg</b>                                  |
| Whole body average SAR                                                           | <b>0.08 W/kg</b>                                 |
| Peak spatial-average SAR (extremities)<br>(averaged over any 10 grams of tissue) | <b>4.0 W/kg</b>                                  |

# Annex B. Test Results

The herein test results were performed by:

| Test case measurement | Test Personnel        |
|-----------------------|-----------------------|
| SAR measurement       | E. Garcia, R. Luciani |
| Conducted measurement | F. Heurtematte        |

## B.1 Test Conditions

### B.1.1 Test SAR Test positions relative to the phantom

The device under test was a Convertible PC, FM350-GL. The device was operated utilizing proprietary software, and each channel was measured using a communication tester to determine the maximum average power.

The device has 2 power settings:

- Notebook mode
- Tablet mode

See section 6 for details about power values for the configuration

See Annex F.3 for information about the platform antenna configuration

In the same manner the required test positions analysis is done considering the two possible user configurations and power levels for each one

#### Notebook mode

The highest tune up power for this mode is 27dBm in LTE41 PC2. Notebook mode can be reduced given the distance of the antenna to the measurement point and the above maximum power. For more details refer to section B.1.3.1

#### Tablet mode

According to FCC OET KDB 616217 D04, the back surface and edges of the tablet should be tested for SAR compliance with the tablet touching the phantom. The SAR Test Exclusion Threshold in FCC OET KDB 447498 D01 can be applied to determine SAR test exclusion for adjacent edge configurations. (See section 6 for power specifications)

The reduced power values shown on section 6 and the closest distance from the antenna to an adjacent tablet edge is used to determine if SAR testing is required for the adjacent edges, with the adjacent edge positioned against the phantom and the edge containing the antenna positioned perpendicular to the phantom.

Considering the antenna location diagrams in Annex F and the test exclusions described before, the surfaces/edges to be measured for each antenna are:

| Tablet   | WWAN Main 5                                                                                             | WWAN Aux 8                                                                        |
|----------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| Position | <ul style="list-style-type: none"> <li>• Top Edge</li> <li>• Back Face</li> <li>• Right Edge</li> </ul> | <ul style="list-style-type: none"> <li>• Top Edge</li> <li>• Back Face</li> </ul> |

See B.1.3.1 for a more detailed list of the applied reductions.

See F.2 Test position section for more information on the tested positions.

## B.1.2 Test signal, Output power and Test Frequencies

### B.1.2.1 LTE TDD consideration

According to KDB 941225 D05 SAR for LTE Devices, for Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

LTE TDD Bands support 3GPP TS 36.211 section 4.2 for Type 2 Frame structure and table 2 for uplink-downlink configurations and table 1 for special subframe configurations

**Table 1**

| 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 $T_s$                       | (1+X) 2192 $T_s$               | (1+X) 2560 $T_s$                 | 7680 · $T_s$                       | (1+X) 2192 $T_s$               | (1+X) 2560 $T_s$                 |
| 1                              | 19760 $T_s$                      |                                |                                  | 20480 $T_s$                        |                                |                                  |
| 2                              | 21952 $T_s$                      |                                |                                  | 23040 $T_s$                        |                                |                                  |
| 3                              | 24144 $T_s$                      |                                |                                  | 25600 $T_s$                        |                                |                                  |
| 4                              | 26336 $T_s$                      | (2+X) 2192 $T_s$               | (2+X) 2560 $T_s$                 | 7680 $T_s$                         | (2+X) 2192 $T_s$               | (2+X) 2560 $T_s$                 |
| 5                              | 6592 $T_s$                       |                                |                                  | 20480 $T_s$                        |                                |                                  |
| 6                              | 19760 $T_s$                      |                                |                                  | 23040 $T_s$                        |                                |                                  |
| 7                              | 21952 $T_s$                      |                                |                                  | 12800 $T_s$                        |                                |                                  |
| 8                              | 24144 $T_s$                      | 13150 $T_s$                    | 12800 $T_s$                      | -                                  | -                              | -                                |
| 9                              | 13168 $T_s$                      |                                |                                  | -                                  | -                              | -                                |
| 10                             | 13168 $T_s$                      |                                |                                  | -                                  | -                              | -                                |

**Table2**

| Uplink-Downlink Config. | Downlink-to-Uplink Switch-point Periodicity | Subframe Number |   |   |   |   |   |   |   |   |   | Calculated Duty Cycle (%) |
|-------------------------|---------------------------------------------|-----------------|---|---|---|---|---|---|---|---|---|---------------------------|
|                         |                                             | 0               | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |                           |
| 0                       | 5 ms                                        | D               | S | U | U | U | D | S | U | U | U | 63.3%                     |
| 1                       | 5 ms                                        | D               | S | U | U | D | D | S | U | U | D | 43.3%                     |
| 2                       | 5 ms                                        | D               | S | U | D | D | D | S | U | D | D | 23.3%                     |
| 3                       | 10 ms                                       | D               | S | U | U | U | D | D | D | D | D | 31.7%                     |
| 4                       | 10 ms                                       | D               | S | U | U | D | D | D | D | D | D | 21.7%                     |
| 5                       | 10 ms                                       | D               | S | U | D | D | D | D | D | D | D | 11.7%                     |
| 6                       | 5 ms                                        | D               | S | U | U | U | D | S | U | U | D | 53.3%                     |

Calculated duty cycle = Extended cyclic prefix in uplink \* (TS) \* # of S + # of U / period

The configuration used for SAR testing was the number 0 which corresponds to the highest duty cycle (Power Class 3)

Frame structure and maximal measured duty cycle for NR 5G FR1 are described in the table 3.

### B.1.2.2 5G NR TDD consideration

**Table3**

| Subframe Number |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Radio Frame 0   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| SF0             | SF1 | SF2 | SF3 | SF4 | SF5 | SF6 | SF7 | SF8 | SF9 | SF0 | SF1 | SF2 | SF3 | SF4 | SF5 | SF6 | SF7 | SF8 | SF9 |
| 0               | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   |
| D               | s   | U   | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   |
| Radio Frame 1-2 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| SF0             | SF1 | SF2 | SF3 | SF4 | SF5 | SF6 | SF7 | SF8 | SF9 | SF0 | SF1 | SF2 | SF3 | SF4 | SF5 | SF6 | SF7 | SF8 | SF9 |
| 0               | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   |
| S               | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   |
| Radio Frame 3   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| SF0             | SF1 | SF2 | SF3 | SF4 | SF5 | SF6 | SF7 | SF8 | SF9 | SF0 | SF1 | SF2 | SF3 | SF4 | SF5 | SF6 | SF7 | SF8 | SF9 |
| 0               | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   | 0   | 1   | 2   | 3   | 4   | 5   | 6   | 7   | 8   | 9   |
| S               | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   | S   | U   |

"D": Full DL slot, "s": partial slot, "S": partial slot for PUSCH, "U": full UL slot

## B.1.3 Evaluation Exclusion and Test Reductions

### B.1.3.1 SAR evaluation exclusion

The SAR Test Exclusion Threshold in FCC OET KDB 447498 D01 v06 can be applied to determine SAR test exclusion for adjacent edge configurations. For 100MHz to 6GHz and test separation distances  $\leq 50$ mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following formula:

$$[(\text{max. power of channel, including tune - up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot \left[ \sqrt{f_{(\text{GHz})}} \right] \quad (1)$$

$\leq 3.0$  for 1g SAR, and  $\leq 7.5$  for 10g extremity SAR

Where:

- $f(\text{GHz})$  is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- The values 3.0 and 7.5 are referred to as numeric thresholds

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.

For test separation distances  $> 50$  mm, the 1-g and 10-g SAR test exclusion thresholds are determined using the following formulas:

$$((\text{Power allowed at numeric threshold for 50 mm in (1)}) + (\text{test separation distance} - 50 \text{ mm}) \cdot (f_{\text{MHz}}/150)) \text{mW}, \quad (2)$$

*for 100MHz to 1500MHz*

$$((\text{Power allowed at numeric threshold for 50 mm in (1)}) + (\text{test separation distance} - 50 \text{ mm}) \cdot 10) \text{mW}, \quad (3)$$

*for 1500MHz and  $\leq 6$ GHz*

### Test Exclusion

| Antenna             | Band Name | Output power |       | Laptop | Back Face | Top Edge | Bottom Edge | Left Edge | Right Edge | Laptop | Back Face | Top Edge | Bottom Edge | Left Edge | Right Edge |
|---------------------|-----------|--------------|-------|--------|-----------|----------|-------------|-----------|------------|--------|-----------|----------|-------------|-----------|------------|
|                     |           | dBm          | mW    |        |           |          |             |           |            |        |           |          |             |           |            |
| WWAN<br>(Main Ant5) | FDD II    | 16.5         | 44.7  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | FDD IV    | 19.0         | 79.4  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | FDD V     | 20.5         | 112.2 | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | LTE 2     | 16.5         | 44.7  | >50    | <50       | <50      | >50         | >50       | <50        | R      | R         | R        | R           | R         | R          |
|                     | LTE 4     | 19.0         | 79.4  | >50    | <50       | <50      | >50         | >50       | <50        | R      | R         | R        | R           | R         | R          |
|                     | LTE 5     | 20.5         | 112.2 | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | LTE 7     | 14.0         | 25.1  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | LTE 12    | 19.5         | 89.1  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | LTE 13    | 19.5         | 89.1  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | LTE 14    | 19.5         | 89.1  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | LTE 17    | 19.5         | 89.1  | >50    | <50       | <50      | >50         | >50       | <50        | R      | R         | R        | R           | R         | R          |
|                     | LTE 25    | 16.5         | 44.7  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | LTE 26    | 20.0         | 100.0 | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | LTE 30    | 17.0         | 56.2  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | LTE 38    | 15.0         | 31.6  | >50    | <50       | <50      | >50         | >50       | <50        | R      | R         | R        | R           | R         | R          |
|                     | LTE 41    | 15.0         | 31.6  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | LTE 66    | 18.5         | 70.8  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | NR 2      | 16.5         | 44.7  | >50    | <50       | <50      | >50         | >50       | <50        | R      | R         | R        | R           | R         | R          |
|                     | NR 5      | 20.5         | 112.2 | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | NR 7      | 14.0         | 25.1  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | NR 25     | 16.5         | 44.7  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | NR 30     | 18.0         | 63.1  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | NR 38     | 15.0         | 31.6  | >50    | <50       | <50      | >50         | >50       | <50        | R      | R         | R        | R           | R         | R          |
|                     | NR 41     | 16.0         | 39.8  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | NR 66     | 19.0         | 79.4  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | NR 77     | 16.0         | 39.8  | >50    | <50       | <50      | >50         | >50       | <50        | R      | T         | T        | R           | R         | T          |
|                     | NR 78     | 14.0         | 25.1  | >50    | <50       | <50      | >50         | >50       | <50        | R      | R         | R        | R           | R         | R          |

| Antenna         | Band Name | Output power |      | Laptop | Back Face | Top Edge | Bottom Edge | Left Edge | Right Edge |
|-----------------|-----------|--------------|------|--------|-----------|----------|-------------|-----------|------------|
|                 |           | dBm          | mW   |        |           |          |             |           |            |
| WWAN (Aux Ant8) | LTE 2     | 19.0         | 79.4 | >50    | <50       | <50      | >50         | >50       | <50        |
|                 | LTE 4     | 19.0         | 79.4 | >50    | <50       | <50      | >50         | >50       | <50        |
|                 | LTE 7     | 14.0         | 25.1 | >50    | <50       | <50      | >50         | >50       | <50        |
|                 | LTE 25    | 19.0         | 79.4 | >50    | <50       | <50      | >50         | >50       | <50        |
|                 | LTE 30    | 16.5         | 44.7 | >50    | <50       | <50      | >50         | >50       | <50        |
|                 | LTE 41    | 14.0         | 25.1 | >50    | <50       | <50      | >50         | >50       | <50        |
|                 | LTE 66    | 19.0         | 79.4 | >50    | <50       | <50      | >50         | >50       | <50        |
|                 | NR 2      | 18.0         | 63.1 | >50    | <50       | <50      | >50         | >50       | <50        |
|                 | NR 38     | 14.5         | 28.2 | >50    | <50       | <50      | >50         | >50       | <50        |
|                 | NR 41     | 14.0         | 25.1 | >50    | <50       | <50      | >50         | >50       | <50        |
|                 | NR 66     | 19.0         | 79.4 | >50    | <50       | <50      | >50         | >50       | <50        |
|                 | NR 77     | 15.0         | 31.6 | >50    | <50       | <50      | >50         | >50       | <50        |
|                 | NR 78     | 15.5         | 35.5 | >50    | <50       | <50      | >50         | >50       | <50        |

| Laptop | Back Face | Top Edge | Bottom Edge | Left Edge | Right Edge |
|--------|-----------|----------|-------------|-----------|------------|
| R      | R         | R        | R           | R         | R          |
| R      | R         | R        | R           | R         | R          |
| R      | T         | T        | R           | R         | T          |
| R      | T         | T        | R           | R         | T          |
| R      | T         | T        | R           | R         | T          |
| R      | T         | T        | R           | R         | T          |
| R      | T         | T        | R           | R         | T          |
| R      | T         | T        | R           | R         | T          |
| R      | T         | T        | R           | R         | T          |
| R      | T         | T        | R           | R         | T          |
| R      | T         | T        | R           | R         | T          |

T: Tested position

R: Reduced

See Annex F for a more detailed explanation of the separation distance related to the platform.

In order to evaluate SAR test exclusion for laptop and tablet user positions in which the separation distance passes the 50mm limit, equations (2) and (3) are used with the corresponding frequencies for each band, the user distances for the two positions and with the power values described on Section 6. The table below shows all cellular bands evaluated in this report grouped by frequency band, separation distances and the corresponding Power threshold in mW for each combination (distance and frequency)

| Bands                           | Frequency | Separation distance to the body on mm |     |     |     |     |     |      |      |      |      |
|---------------------------------|-----------|---------------------------------------|-----|-----|-----|-----|-----|------|------|------|------|
|                                 |           | 60                                    | 70  | 80  | 90  | 100 | 110 | 160  | 170  | 190  | 200  |
| LTE 12,13, 14, 17               | 750       | 223                                   | 273 | 323 | 373 | 423 | 473 | 723  | 773  | 873  | 923  |
| FDD V<br>LTE 5, 26<br>NR 5      | 835       | 220                                   | 275 | 331 | 387 | 442 | 498 | 776  | 832  | 943  | 999  |
| FDD IV<br>LTE 4, 66<br>NR 66    | 1750      | 213                                   | 313 | 413 | 513 | 613 | 713 | 1213 | 1313 | 1513 | 1613 |
| FDD II<br>LTE 2, 25<br>NR 2, 25 | 1900      | 209                                   | 309 | 409 | 509 | 609 | 709 | 1209 | 1309 | 1509 | 1609 |
| LTE 30<br>NR 30                 | 2300      | 199                                   | 299 | 399 | 499 | 599 | 699 | 1199 | 1299 | 1499 | 1599 |
| LTE 7, 38, 41<br>NR 7, 38, 41   | 2600      | 193                                   | 293 | 393 | 493 | 593 | 693 | 1193 | 1293 | 1493 | 1593 |
| LTE 48<br>NR 77, 78             | 3700      | 180                                   | 280 | 380 | 480 | 580 | 680 | 1180 | 1280 | 1480 | 1580 |

Threshold values in mW

The highest output power for all bands in tablet mode is 112.2mW which is smaller than all the values of the table, SAR is not required for the tablet bottom and left edge positions

The highest output power for all bands in notebook mode is 501.2mW which is smaller than all the values of the table, for distances >160mm. Since the considered distance between the user body and the antenna is minimum 200mm, SAR is not required for the notebook mode position. Refer to annex F3 for antenna position using notebook mode,

### B.1.3.2 General SAR test reduction

According to FCC OET KDB 447498 D01, testing of other required channels within the operating mode of a frequency band is not required when the reported 1-g or 10-g SAR for the mid-band or highest output power channel is:

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

### WWAN SAR Test reduction

| Transmission Mode | SAR test exclusion/reduction                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| HSDPA             | According to FCC OET KDB 941225 D01, SAR evaluation is not required when the maximum average output power is $< \frac{1}{4}$ dB higher than the measured on the corresponding channels without HSDPA, using 12.2kbps RMC, and the maximum SAR for 12.2kbps RMC is $< 1.2$ W/kg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| HSUPA             | According to FCC OET KDB 941225 D01, SAR evaluation is not required when the maximum average output power is $< \frac{1}{4}$ dB higher than the measured on the corresponding channels without HSUPA, using 12.2kbps RMC, and the maximum SAR for 12.2kbps RMC is $< 1.2$ W/kg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DC+HSDPA          | According to FCC OET KDB 941225 D01, SAR evaluation is not required when the maximum average output power is $< \frac{1}{4}$ dB higher than the measured on the corresponding channels without DC+HSDPA, using 12.2kbps RMC, and the maximum SAR for 12.2kbps RMC is $< 1.2$ W/kg.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| LTE               | <p>According to FCC OET KDB 941225 D05, testing of 100% RB allocation, higher order modulations or lower BW is not required when these conditions are met:</p> <ul style="list-style-type: none"> <li>○ For QPSK with 100% RB allocation, SAR is not required when the highest maximum output power for 100 % RB allocation is less than the highest maximum output power in 50% and 1 RB allocations and the highest reported SAR for 1 RB and 50% RB allocation are <math>\leq 0.8</math> W/kg.</li> <li>○ For each modulation besides QPSK, SAR is required only when the highest maximum output power for the configuration in the higher order modulation is <math>&gt; \frac{1}{2}</math> dB higher than the same configuration in QPSK or when the reported SAR for the QPSK configuration is <math>&gt; 1.45</math> W/kg.</li> <li>○ For lower BW, only measure SAR when the highest maximum output power of a configuration requiring testing in the smaller channel bandwidth is <math>&gt; \frac{1}{2}</math> 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 <math>&gt; 1.45</math> W/kg.</li> </ul> <p>For LTE bands that do not support at least three non-overlapping channels in certain channel bandwidths, test the available non-overlapping channels instead. When a device supports overlapping channel assignment in a channel bandwidth configuration, the middle channel of the group of overlapping channels should be selected for testing; therefore, the requirement for H, M, and L channels may not fully apply</p> |
| 5G NR             | According to TCB workshop November 2019; RF Exposure Policy Updates (5G NR FR1 NSA EN-DC UE SAR Evaluations), the FCC OET KDB 941225 D05 rules apply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |



## B.2 Conducted Power Measurements – Tablet mode

### B.2.1 WCDMA/ HSPA/ DC-HSPA

#### B.2.1.1 WCDMA Band II Antenna 5

| Mode     | Channel Number | Freq (MHz) | Subset | MPR | Average Power Measured (dBm) | Factory Upper Tolerance (dBm) |
|----------|----------------|------------|--------|-----|------------------------------|-------------------------------|
| RMC      | 9262           | 1852.4     | -      | 0   | 15.94                        | 16.50                         |
|          | 9400           | 1880       | -      | 0   | 15.96                        | 16.50                         |
|          | 9538           | 1907.6     | -      | 0   | 15.90                        | 16.50                         |
| HSDPA    | 9262           | 1852.4     | 1      | 0   | 15.98                        | 16.50                         |
|          |                |            | 2      | 0   | 15.99                        | 16.50                         |
|          |                |            | 3      | 0   | 16.02                        | 16.50                         |
|          |                |            | 4      | 0   | 15.99                        | 16.50                         |
|          | 9400           | 1880       | 1      | 0   | 16.00                        | 16.50                         |
|          |                |            | 2      | 0   | 15.99                        | 16.50                         |
|          |                |            | 3      | 0   | 16.05                        | 16.50                         |
|          |                |            | 4      | 0   | 16.02                        | 16.50                         |
|          | 9538           | 1907.6     | 1      | 0   | 15.92                        | 16.50                         |
|          |                |            | 2      | 0   | 15.91                        | 16.50                         |
|          |                |            | 3      | 0   | 15.94                        | 16.50                         |
|          |                |            | 4      | 0   | 15.92                        | 16.50                         |
| HSUPA    | 9262           | 1852.4     | 1      | 0   | 15.30                        | 16.50                         |
|          |                |            | 2      | 2   | NM                           | 16.50                         |
|          |                |            | 3      | 1   | NM                           | 16.50                         |
|          |                |            | 4      | 2   | NM                           | 16.50                         |
|          |                |            | 5      | 0   | 15.38                        | 16.50                         |
|          | 9400           | 1880       | 1      | 0   | 15.35                        | 16.50                         |
|          |                |            | 2      | 2   | NM                           | 16.50                         |
|          |                |            | 3      | 1   | NM                           | 16.50                         |
|          |                |            | 4      | 2   | NM                           | 16.50                         |
|          |                |            | 5      | 0   | 15.35                        | 16.50                         |
|          | 9538           | 1907.6     | 1      | 0   | 15.20                        | 16.50                         |
|          |                |            | 2      | 2   | NM                           | 16.50                         |
|          |                |            | 3      | 1   | NM                           | 16.50                         |
|          |                |            | 4      | 2   | NM                           | 16.50                         |
|          |                |            | 5      | 0   | 15.65                        | 16.50                         |
| DC-HSDPA | 9262           | 1852.4     | 1      | 0   | 15.97                        | 16.50                         |
|          |                |            | 2      | 0   | 16.01                        | 16.50                         |
|          |                |            | 3      | 0   | 16.02                        | 16.50                         |
|          |                |            | 4      | 0   | 15.99                        | 16.50                         |
|          | 9400           | 1880       | 1      | 0   | 15.98                        | 16.50                         |
|          |                |            | 2      | 0   | 16.00                        | 16.50                         |
|          |                |            | 3      | 0   | 16.03                        | 16.50                         |
|          |                |            | 4      | 0   | 15.98                        | 16.50                         |
|          | 9538           | 1907.6     | 1      | 0   | 15.93                        | 16.50                         |
|          |                |            | 2      | 0   | 15.92                        | 16.50                         |
|          |                |            | 3      | 0   | 15.97                        | 16.50                         |
|          |                |            | 4      | 0   | 15.96                        | 16.50                         |

NM: Not measured

NA: Not applicable



**B.2.1.2 WCDMA Band IV Antenna 5**

| Mode     | Channel Number | Freq (MHz) | Subset | MPR | Average Power Measured (dBm) | Factory Upper Tolerance (dBm) |
|----------|----------------|------------|--------|-----|------------------------------|-------------------------------|
| RMC      | 1312           | 1712.4     | -      | 0   | 18.77                        | 19.00                         |
|          | 1413           | 1732.6     | -      | 0   | 18.65                        | 19.00                         |
|          | 1513           | 1752.6     | -      | 0   | 18.64                        | 19.00                         |
| HSDPA    | 1312           | 1712.4     | 1      | 0   | 18.67                        | 19.00                         |
|          |                |            | 2      | 0   | 18.65                        | 19.00                         |
|          |                |            | 3      | 0   | 18.71                        | 19.00                         |
|          |                |            | 4      | 0   | 18.68                        | 19.00                         |
|          | 1413           | 1732.6     | 1      | 0   | 18.56                        | 19.00                         |
|          |                |            | 2      | 0   | 18.55                        | 19.00                         |
|          |                |            | 3      | 0   | 18.58                        | 19.00                         |
|          |                |            | 4      | 0   | 18.57                        | 19.00                         |
|          | 1513           | 1752.6     | 1      | 0   | 18.54                        | 19.00                         |
|          |                |            | 2      | 0   | 18.53                        | 19.00                         |
|          |                |            | 3      | 0   | 18.57                        | 19.00                         |
|          |                |            | 4      | 0   | 18.52                        | 19.00                         |
| HSUPA    | 1312           | 1712.4     | 1      | 0   | 18.10                        | 19.00                         |
|          |                |            | 2      | 2   | NM                           | 19.00                         |
|          |                |            | 3      | 1   | NM                           | 19.00                         |
|          |                |            | 4      | 2   | NM                           | 19.00                         |
|          | 1413           | 1732.6     | 5      | 0   | 17.95                        | 19.00                         |
|          |                |            | 1      | 0   | 18.15                        | 19.00                         |
|          |                |            | 2      | 2   | NM                           | 19.00                         |
|          |                |            | 3      | 1   | NM                           | 19.00                         |
|          | 1513           | 1752.6     | 4      | 2   | NM                           | 19.00                         |
|          |                |            | 5      | 0   | 17.95                        | 19.00                         |
|          |                |            | 1      | 0   | 17.90                        | 19.00                         |
| DC-HSDPA | 1312           | 1712.4     | 2      | 2   | NM                           | 19.00                         |
|          |                |            | 3      | 1   | NM                           | 19.00                         |
|          |                |            | 4      | 2   | NM                           | 19.00                         |
|          |                |            | 5      | 0   | 17.90                        | 19.00                         |
|          | 1413           | 1732.6     | 1      | 0   | 18.68                        | 19.00                         |
|          |                |            | 2      | 0   | 18.67                        | 19.00                         |
|          |                |            | 3      | 0   | 18.74                        | 19.00                         |
|          |                |            | 4      | 0   | 18.68                        | 19.00                         |
|          | 1513           | 1752.6     | 1      | 0   | 18.56                        | 19.00                         |
|          |                |            | 2      | 0   | 18.56                        | 19.00                         |
|          |                |            | 3      | 0   | 18.60                        | 19.00                         |
|          |                |            | 4      | 0   | 18.57                        | 19.00                         |
|          | 1513           | 1752.6     | 1      | 0   | 18.56                        | 19.00                         |
|          |                |            | 2      | 0   | 18.52                        | 19.00                         |
|          |                |            | 3      | 0   | 18.59                        | 19.00                         |
|          |                |            | 4      | 0   | 18.53                        | 19.00                         |

NM: Not measured

NA: Not applicable

**B.2.1.3 WCDMA Band V Antenna 5**

| Mode      | Channel Number | Freq (MHz) | Subset | MPR | Average Power Measured (dBm) | Factory Upper Tolerance (dBm) |
|-----------|----------------|------------|--------|-----|------------------------------|-------------------------------|
| RMC       | 4132           | 826.4      | -      | 0   | 20.05                        | 20.50                         |
|           | 4183           | 836.6      | -      | 0   | 19.97                        | 20.50                         |
|           | 4233           | 846.6      | -      | 0   | 19.99                        | 20.50                         |
| HSDPA     | 4132           | 826.4      | 1      | 0   | 20.04                        | 20.50                         |
|           |                |            | 2      | 0   | 20.06                        | 20.50                         |
|           |                |            | 3      | 0   | 20.13                        | 20.50                         |
|           |                |            | 4      | 0   | 20.11                        | 20.50                         |
|           | 4183           | 836.6      | 1      | 0   | 19.96                        | 20.50                         |
|           |                |            | 2      | 0   | 19.96                        | 20.50                         |
|           |                |            | 3      | 0   | 20.05                        | 20.50                         |
|           |                |            | 4      | 0   | 19.98                        | 20.50                         |
|           | 4233           | 846.6      | 1      | 0   | 20.00                        | 20.50                         |
|           |                |            | 2      | 0   | 19.99                        | 20.50                         |
|           |                |            | 3      | 0   | 20.04                        | 20.50                         |
|           |                |            | 4      | 0   | 20.01                        | 20.50                         |
| HSUPA     | 4132           | 826.4      | 1      | 0   | 19.30                        | 20.50                         |
|           |                |            | 2      | 2   | NM                           | 20.50                         |
|           |                |            | 3      | 1   | NM                           | 20.50                         |
|           |                |            | 4      | 2   | NM                           | 20.50                         |
|           |                |            | 5      | 0   | 19.36                        | 20.50                         |
|           | 4183           | 836.6      | 1      | 0   | 19.25                        | 20.50                         |
|           |                |            | 2      | 2   | NM                           | 20.50                         |
|           |                |            | 3      | 1   | NM                           | 20.50                         |
|           |                |            | 4      | 2   | NM                           | 20.50                         |
|           |                |            | 5      | 0   | 19.5                         | 20.50                         |
|           | 4233           | 846.6      | 1      | 0   | 19.28                        | 20.50                         |
|           |                |            | 2      | 2   | NM                           | 20.50                         |
|           |                |            | 3      | 1   | NM                           | 20.50                         |
|           |                |            | 4      | 2   | NM                           | 20.50                         |
|           |                |            | 5      | 0   | 19.38                        | 20.50                         |
| DC- HSDPA | 4132           | 826.4      | 1      | 0   | 20.07                        | 20.50                         |
|           |                |            | 2      | 0   | 20.08                        | 20.50                         |
|           |                |            | 3      | 0   | 20.14                        | 20.50                         |
|           |                |            | 4      | 0   | 20.10                        | 20.50                         |
|           | 4183           | 836.6      | 1      | 0   | 19.97                        | 20.50                         |
|           |                |            | 2      | 0   | 19.98                        | 20.50                         |
|           |                |            | 3      | 0   | 20.03                        | 20.50                         |
|           |                |            | 4      | 0   | 19.99                        | 20.50                         |
|           | 4233           | 846.6      | 1      | 0   | 20.01                        | 20.50                         |
|           |                |            | 2      | 0   | 19.99                        | 20.50                         |
|           |                |            | 3      | 0   | 20.07                        | 20.50                         |
|           |                |            | 4      | 0   | 20.03                        | 20.50                         |

NM: Not measured

NA: Not applicable

## **B.2.2 LTE**

### **B.2.2.1 LTE Band 2 FDD Antenna Main 5 & Antenna Aux 8**

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

### **B.2.2.2 LTE Band 4 FDD Antenna Main 5 & Antenna Aux 8**

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

**B.2.2.3 LTE band 5 FDD Antenna Main 5**

| Band  | BW     | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|--------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |        |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 5 | 10 MHz | 20525     | 836.5      | 1RB Low         | 1 Pos 0     | 20.50                         | 0     | 19.53                       | 20.50                         | 1     | 18.82                       |
|       |        |           |            | 1RB Mid         | 1 Pos 50    | 20.50                         | 0     | 19.50                       | 20.50                         | 1     | 18.79                       |
|       |        |           |            | 1RB High        | 1 Pos 99    | 20.50                         | 0     | 19.43                       | 20.50                         | 1     | 18.75                       |
|       |        |           |            | 50% RB Low      | 50 Pos 0    | 20.50                         | 1     | 18.49                       | 20.50                         | 2     | 17.55                       |
|       |        |           |            | 50% RB Mid      | 50 Pos 24   | 20.50                         | 1     | 18.55                       | 20.50                         | 2     | 17.56                       |
|       |        |           |            | 50% RB High     | 50 Pos 50   | 20.50                         | 1     | 18.52                       | 20.50                         | 2     | 17.52                       |
|       | 5 MHz  | 20425     | 826.5      | 100% RB         | 100 Pos 0   | 20.50                         | 1     | 18.51                       | 20.50                         | 2     | 17.50                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 20.50                         | 0     | 19.53                       | 20.50                         | 1     | 18.83                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 20.50                         | 0     | 19.51                       | 20.50                         | 1     | 18.79                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 20.50                         | 0     | 19.52                       | 20.50                         | 1     | 18.80                       |
|       |        |           |            | 50% RB Low      | 38 Pos 0    | 20.50                         | 1     | 18.61                       | 20.50                         | 2     | 17.64                       |
|       |        |           |            | 50% RB Mid      | 38 Pos 19   | 20.50                         | 1     | 18.56                       | 20.50                         | 2     | 17.60                       |
|       |        | 20525     | 836.5      | 50% RB High     | 38 Pos 39   | 20.50                         | 1     | 18.50                       | 20.50                         | 2     | 17.53                       |
|       |        |           |            | 100% RB         | 75 Pos 0    | 20.50                         | 1     | 18.58                       | 20.50                         | 2     | 17.58                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 20.50                         | 0     | 19.44                       | 20.50                         | 1     | 18.75                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 20.50                         | 0     | 19.45                       | 20.50                         | 1     | 18.79                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 20.50                         | 0     | 19.43                       | 20.50                         | 1     | 18.79                       |
|       |        |           |            | 50% RB Low      | 38 Pos 0    | 20.50                         | 1     | 18.49                       | 20.50                         | 2     | 17.49                       |
|       |        | 20625     | 846.5      | 50% RB Mid      | 38 Pos 19   | 20.50                         | 1     | 18.45                       | 20.50                         | 2     | 17.49                       |
|       |        |           |            | 50% RB High     | 38 Pos 39   | 20.50                         | 1     | 18.45                       | 20.50                         | 2     | 17.48                       |
|       |        |           |            | 100% RB         | 75 Pos 0    | 20.50                         | 1     | 18.49                       | 20.50                         | 2     | 17.44                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 20.50                         | 0     | 19.56                       | 20.50                         | 1     | 18.44                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 20.50                         | 0     | 19.62                       | 20.50                         | 1     | 18.44                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 20.50                         | 0     | 19.61                       | 20.50                         | 1     | 18.41                       |
|       | 3 MHz  | 20415     | 825.5      | 50% RB Low      | 38 Pos 0    | 20.50                         | 1     | 18.55                       | 20.50                         | 2     | 17.60                       |
|       |        |           |            | 50% RB Mid      | 38 Pos 19   | 20.50                         | 1     | 18.50                       | 20.50                         | 2     | 17.56                       |
|       |        |           |            | 50% RB High     | 38 Pos 39   | 20.50                         | 1     | 18.47                       | 20.50                         | 2     | 17.52                       |
|       |        |           |            | 100% RB         | 75 Pos 0    | 20.50                         | 1     | 18.55                       | 20.50                         | 2     | 17.57                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 20.50                         | 0     | 19.51                       | 20.50                         | 1     | 18.81                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 20.50                         | 0     | 19.50                       | 20.50                         | 1     | 18.78                       |
|       |        | 20525     | 836.5      | 1RB High        | 1 Pos 49    | 20.50                         | 0     | 19.54                       | 20.50                         | 1     | 18.79                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 20.50                         | 1     | 18.45                       | 20.50                         | 2     | 17.50                       |
|       |        |           |            | 50% RB Mid      | 25 Pos 12   | 20.50                         | 1     | 18.49                       | 20.50                         | 2     | 17.45                       |
|       |        |           |            | 50% RB High     | 25 Pos 25   | 20.50                         | 1     | 18.46                       | 20.50                         | 2     | 17.41                       |
|       |        |           |            | 100% RB         | 50 Pos 0    | 20.50                         | 1     | 18.51                       | 20.50                         | 2     | 17.52                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 20.50                         | 0     | 19.32                       | 20.50                         | 1     | 18.41                       |
|       |        | 20635     | 847.5      | 1RB Mid         | 1 Pos 24    | 20.50                         | 0     | 19.33                       | 20.50                         | 1     | 18.44                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 20.50                         | 0     | 19.29                       | 20.50                         | 1     | 18.37                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 20.50                         | 1     | 19.28                       | 20.50                         | 1     | 18.62                       |
|       |        |           |            | 50% RB Mid      | 25 Pos 12   | 20.50                         | 1     | 19.28                       | 20.50                         | 1     | 18.61                       |
|       |        |           |            | 50% RB High     | 25 Pos 25   | 20.50                         | 1     | 19.27                       | 20.50                         | 1     | 18.63                       |
|       |        |           |            | 100% RB         | 50 Pos 0    | 20.50                         | 1     | 18.44                       | 20.50                         | 2     | 17.56                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 20.50                         | 0     | 19.53                       | 20.50                         | 1     | 18.72                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 20.50                         | 0     | 19.53                       | 20.50                         | 1     | 18.68                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 20.50                         | 0     | 19.47                       | 20.50                         | 1     | 18.59                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 20.50                         | 1     | 18.52                       | 20.50                         | 2     | 17.60                       |
|       |        |           |            | 50% RB Mid      | 25 Pos 12   | 20.50                         | 1     | 18.49                       | 20.50                         | 2     | 17.56                       |
|       |        |           |            | 50% RB High     | 25 Pos 25   | 20.50                         | 1     | 18.51                       | 20.50                         | 2     | 17.51                       |
|       |        |           |            | 100% RB         | 50 Pos 0    | 20.50                         | 1     | 18.50                       | 20.50                         | 2     | 17.51                       |

| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 5 | 1.4 MHz | 20407     | 824.7      | 1RB Low         | 1 Pos 0     | 20.50                         | 0     | 19.52                       | 20.50                         | 1     | 18.49                       |
|       |         |           |            | 1RB Mid         | 1 Pos 2     | 20.50                         | 0     | 19.62                       | 20.50                         | 1     | 18.55                       |
|       |         |           |            | 1RB High        | 1 Pos 5     | 20.50                         | 0     | 19.55                       | 20.50                         | 1     | 18.53                       |
|       |         |           |            | 50% RB Low      | 3 Pos 0     | 20.50                         | 0     | 19.49                       | 20.50                         | 1     | 18.66                       |
|       |         |           |            | 50% RB Mid      | 3 Pos 1     | 20.50                         | 0     | 19.51                       | 20.50                         | 1     | 18.65                       |
|       |         |           |            | 50% RB High     | 3 Pos 2     | 20.50                         | 0     | 19.49                       | 20.50                         | 1     | 18.64                       |
|       |         | 20525     | 836.5      | 100% RB         | 6 Pos 0     | 20.50                         | 1     | 18.48                       | 20.50                         | 2     | 17.51                       |
|       |         |           |            | 1RB Low         | 1 Pos 0     | 20.50                         | 0     | 19.40                       | 20.50                         | 1     | 18.53                       |
|       |         |           |            | 1RB Mid         | 1 Pos 2     | 20.50                         | 0     | 19.46                       | 20.50                         | 1     | 18.58                       |
|       |         |           |            | 1RB High        | 1 Pos 5     | 20.50                         | 0     | 19.37                       | 20.50                         | 1     | 18.53                       |
|       |         |           |            | 50% RB Low      | 3 Pos 0     | 20.50                         | 0     | 19.39                       | 20.50                         | 1     | 18.69                       |
|       |         |           |            | 50% RB Mid      | 3 Pos 1     | 20.50                         | 0     | 19.38                       | 20.50                         | 1     | 18.69                       |
|       |         | 20643     | 848.3      | 50% RB High     | 3 Pos 2     | 20.50                         | 0     | 19.35                       | 20.50                         | 1     | 18.68                       |
|       |         |           |            | 100% RB         | 6 Pos 0     | 20.50                         | 1     | 18.50                       | 20.50                         | 2     | 17.59                       |
|       |         |           |            | 1RB Low         | 1 Pos 0     | 20.50                         | 0     | 19.45                       | 20.50                         | 1     | 18.78                       |
|       |         |           |            | 1RB Mid         | 1 Pos 2     | 20.50                         | 0     | 19.41                       | 20.50                         | 1     | 18.71                       |
|       |         |           |            | 1RB High        | 1 Pos 5     | 20.50                         | 0     | 19.46                       | 20.50                         | 1     | 18.75                       |
|       |         |           |            | 50% RB Low      | 3 Pos 0     | 20.50                         | 1     | 18.49                       | 20.50                         | 2     | 17.51                       |
|       |         |           |            | 50% RB Mid      | 3 Pos 1     | 20.50                         | 1     | 18.44                       | 20.50                         | 2     | 17.49                       |
|       |         |           |            | 50% RB High     | 3 Pos 2     | 20.50                         | 1     | 18.41                       | 20.50                         | 2     | 17.47                       |
|       |         |           |            | 100% RB         | 6 Pos 0     | 20.50                         | 1     | 18.47                       | 20.50                         | 2     | 17.44                       |

## B.2.2.4 LTE Band 7 FDD Antenna Main 5

| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 7 | 20 MHz  | 20850     | 2510       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.56                       | 14.00                         | 1     | 12.76                       |
|       |         |           |            | 1RB Mid         | 1 Pos 50    | 14.00                         | 0     | 13.70                       | 14.00                         | 1     | 12.86                       |
|       |         |           |            | 1RB High        | 1 Pos 99    | 14.00                         | 0     | 13.53                       | 14.00                         | 1     | 12.69                       |
|       |         |           |            | 50% RB Low      | 50 Pos 0    | 14.00                         | 1     | 12.67                       | 14.00                         | 2     | 11.74                       |
|       |         |           |            | 50% RB Mid      | 50 Pos 24   | 14.00                         | 1     | 12.66                       | 14.00                         | 2     | 11.73                       |
|       |         |           |            | 50% RB High     | 50 Pos 50   | 14.00                         | 1     | 12.68                       | 14.00                         | 2     | 11.73                       |
|       |         |           |            | 100% RB         | 100 Pos 0   | 14.00                         | 1     | 12.64                       | 14.00                         | 2     | 11.69                       |
|       |         | 21100     | 2535       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.54                       | 14.00                         | 1     | 12.30                       |
|       |         |           |            | 1RB Mid         | 1 Pos 50    | 14.00                         | 0     | 13.71                       | 14.00                         | 1     | 12.48                       |
|       |         |           |            | 1RB High        | 1 Pos 99    | 14.00                         | 0     | 13.58                       | 14.00                         | 1     | 12.34                       |
|       |         |           |            | 50% RB Low      | 50 Pos 0    | 14.00                         | 1     | 12.65                       | 14.00                         | 2     | 11.71                       |
|       |         |           |            | 50% RB Mid      | 50 Pos 24   | 14.00                         | 1     | 12.66                       | 14.00                         | 2     | 11.65                       |
|       |         |           |            | 50% RB High     | 50 Pos 50   | 14.00                         | 1     | 12.63                       | 14.00                         | 2     | 11.62                       |
|       |         |           |            | 100% RB         | 100 Pos 0   | 14.00                         | 1     | 12.66                       | 14.00                         | 2     | 11.61                       |
|       |         | 21350     | 2560       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.54                       | 14.00                         | 1     | 12.33                       |
|       |         |           |            | 1RB Mid         | 1 Pos 50    | 14.00                         | 0     | 13.75                       | 14.00                         | 1     | 12.52                       |
|       |         |           |            | 1RB High        | 1 Pos 99    | 14.00                         | 0     | 13.64                       | 14.00                         | 1     | 12.40                       |
|       |         |           |            | 50% RB Low      | 50 Pos 0    | 14.00                         | 1     | 12.67                       | 14.00                         | 2     | 11.61                       |
|       |         |           |            | 50% RB Mid      | 50 Pos 24   | 14.00                         | 1     | 12.62                       | 14.00                         | 2     | 11.56                       |
|       |         |           |            | 50% RB High     | 50 Pos 50   | 14.00                         | 1     | 12.67                       | 14.00                         | 2     | 11.57                       |
|       | 100% RB |           |            | 100 Pos 0       | 14.00       | 1                             | 12.66 | 14.00                       | 2                             | 11.63 |                             |
|       | 15 MHz  | 20825     | 2507.5     | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.62                       | 14.00                         | 1     | 12.89                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 14.00                         | 0     | 13.55                       | 14.00                         | 1     | 12.87                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 14.00                         | 0     | 13.69                       | 14.00                         | 1     | 13.00                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 14.00                         | 1     | 12.61                       | 14.00                         | 2     | 11.76                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 14.00                         | 1     | 12.67                       | 14.00                         | 2     | 11.75                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 14.00                         | 1     | 12.59                       | 14.00                         | 2     | 11.72                       |
|       |         |           |            | 100% RB         | 75 Pos 0    | 14.00                         | 1     | 12.66                       | 14.00                         | 2     | 11.73                       |
|       |         | 21100     | 2535       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.59                       | 14.00                         | 1     | 12.64                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 14.00                         | 0     | 13.50                       | 14.00                         | 1     | 12.56                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 14.00                         | 0     | 13.63                       | 14.00                         | 1     | 12.78                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 14.00                         | 1     | 12.60                       | 14.00                         | 2     | 11.57                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 14.00                         | 1     | 12.60                       | 14.00                         | 2     | 11.57                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 14.00                         | 1     | 12.56                       | 14.00                         | 2     | 11.58                       |
|       |         |           |            | 100% RB         | 75 Pos 0    | 14.00                         | 1     | 12.60                       | 14.00                         | 2     | 11.59                       |
|       |         | 21375     | 2562.5     | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.58                       | 14.00                         | 1     | 12.69                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 14.00                         | 0     | 13.55                       | 14.00                         | 1     | 12.74                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 14.00                         | 0     | 13.63                       | 14.00                         | 1     | 12.83                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 14.00                         | 1     | 12.54                       | 14.00                         | 2     | 11.58                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 14.00                         | 1     | 12.60                       | 14.00                         | 2     | 11.67                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 14.00                         | 1     | 12.63                       | 14.00                         | 2     | 11.63                       |
|       | 100% RB |           |            | 75 Pos 0        | 14.00       | 1                             | 12.65 | 14.00                       | 2                             | 11.61 |                             |
|       | 10 MHz  | 20800     | 2505       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.71                       | 14.00                         | 1     | 12.99                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 0     | 13.73                       | 14.00                         | 1     | 13.00                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 14.00                         | 0     | 13.69                       | 14.00                         | 1     | 12.99                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 14.00                         | 1     | 12.69                       | 14.00                         | 2     | 11.80                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 14.00                         | 1     | 12.67                       | 14.00                         | 2     | 11.85                       |
|       |         |           |            | 50% RB High     | 25 Pos 25   | 14.00                         | 1     | 12.71                       | 14.00                         | 2     | 11.82                       |
|       |         |           |            | 100% RB         | 50 Pos0     | 14.00                         | 1     | 12.71                       | 14.00                         | 2     | 11.77                       |
|       |         | 21100     | 2535       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.71                       | 14.00                         | 1     | 12.52                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 0     | 13.72                       | 14.00                         | 1     | 12.53                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 14.00                         | 0     | 13.68                       | 14.00                         | 1     | 12.50                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 14.00                         | 1     | 12.64                       | 14.00                         | 2     | 11.63                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 14.00                         | 1     | 12.63                       | 14.00                         | 2     | 11.61                       |
|       |         |           |            | 50% RB High     | 25 Pos 25   | 14.00                         | 1     | 12.65                       | 14.00                         | 2     | 11.61                       |
|       |         |           |            | 100% RB         | 50 Pos0     | 14.00                         | 1     | 12.67                       | 14.00                         | 2     | 11.65                       |
|       |         | 21400     | 2565       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.66                       | 14.00                         | 1     | 12.81                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 0     | 13.70                       | 14.00                         | 1     | 12.83                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 14.00                         | 0     | 13.71                       | 14.00                         | 1     | 12.83                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 14.00                         | 1     | 12.63                       | 14.00                         | 2     | 11.65                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 14.00                         | 1     | 12.64                       | 14.00                         | 2     | 11.65                       |
|       |         |           |            | 50% RB High     | 25 Pos 25   | 14.00                         | 1     | 12.72                       | 14.00                         | 2     | 11.71                       |
|       | 100% RB |           |            | 50 Pos0         | 14.00       | 1                             | 12.71 | 14.00                       | 2                             | 11.66 |                             |

| Band  | BW    | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|-------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |       |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 7 | 5 MHz | 20775     | 2502.5     | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.74                       | 14.00                         | 1     | 13.00                       |
|       |       |           |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 0     | 13.72                       | 14.00                         | 1     | 13.00                       |
|       |       |           |            | 1RB High        | 1 Pos 24    | 14.00                         | 0     | 13.74                       | 14.00                         | 1     | 13.00                       |
|       |       |           |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 1     | 12.67                       | 14.00                         | 2     | 11.72                       |
|       |       |           |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 1     | 12.67                       | 14.00                         | 2     | 11.71                       |
|       |       |           |            | 50% RB High     | 12 Pos 11   | 14.00                         | 1     | 12.65                       | 14.00                         | 2     | 11.73                       |
|       |       |           |            | 100% RB         | 25 Pos 0    | 14.00                         | 1     | 12.71                       | 14.00                         | 2     | 11.77                       |
|       |       | 21100     | 2535       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.66                       | 14.00                         | 1     | 12.91                       |
|       |       |           |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 0     | 13.68                       | 14.00                         | 1     | 12.93                       |
|       |       |           |            | 1RB High        | 1 Pos 24    | 14.00                         | 0     | 13.63                       | 14.00                         | 1     | 12.90                       |
|       |       |           |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 1     | 12.63                       | 14.00                         | 2     | 11.68                       |
|       |       |           |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 1     | 12.64                       | 14.00                         | 2     | 11.64                       |
|       |       |           |            | 50% RB High     | 12 Pos 11   | 14.00                         | 1     | 12.58                       | 14.00                         | 2     | 11.71                       |
|       |       |           |            | 100% RB         | 25 Pos 0    | 14.00                         | 1     | 12.61                       | 14.00                         | 2     | 11.72                       |
|       |       | 21425     | 2567.5     | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.65                       | 14.00                         | 1     | 12.89                       |
|       |       |           |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 0     | 13.69                       | 14.00                         | 1     | 12.91                       |
|       |       |           |            | 1RB High        | 1 Pos 24    | 14.00                         | 0     | 13.73                       | 14.00                         | 1     | 12.91                       |
|       |       |           |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 1     | 12.69                       | 14.00                         | 2     | 11.61                       |
|       |       |           |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 1     | 12.67                       | 14.00                         | 2     | 11.61                       |
|       |       |           |            | 50% RB High     | 12 Pos 11   | 14.00                         | 1     | 12.68                       | 14.00                         | 2     | 11.60                       |
|       |       |           |            | 100% RB         | 25 Pos 0    | 14.00                         | 1     | 12.68                       | 14.00                         | 2     | 11.60                       |

## B.2.2.5 LTE Band 7 FDD Antenna Aux 8

| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 7 | 20 MHz  | 20850     | 2510       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.64                       | 14.00                         | 1     | 12.90                       |
|       |         |           |            | 1RB Mid         | 1 Pos 50    | 14.00                         | 0     | 13.76                       | 14.00                         | 1     | 13.03                       |
|       |         |           |            | 1RB High        | 1 Pos 99    | 14.00                         | 0     | 13.65                       | 14.00                         | 1     | 12.93                       |
|       |         |           |            | 50% RB Low      | 50 Pos 0    | 14.00                         | 1     | 12.68                       | 14.00                         | 2     | 11.64                       |
|       |         |           |            | 50% RB Mid      | 50 Pos 24   | 14.00                         | 1     | 12.69                       | 14.00                         | 2     | 11.66                       |
|       |         |           |            | 50% RB High     | 50 Pos 50   | 14.00                         | 1     | 12.70                       | 14.00                         | 2     | 11.67                       |
|       |         |           |            | 100% RB         | 100 Pos 0   | 14.00                         | 1     | 12.71                       | 14.00                         | 2     | 11.67                       |
|       |         | 21100     | 2535       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.51                       | 14.00                         | 1     | 13.07                       |
|       |         |           |            | 1RB Mid         | 1 Pos 50    | 14.00                         | 0     | 13.73                       | 14.00                         | 1     | 13.29                       |
|       |         |           |            | 1RB High        | 1 Pos 99    | 14.00                         | 0     | 13.65                       | 14.00                         | 1     | 13.21                       |
|       |         |           |            | 50% RB Low      | 50 Pos 0    | 14.00                         | 1     | 12.72                       | 14.00                         | 2     | 11.69                       |
|       |         |           |            | 50% RB Mid      | 50 Pos 24   | 14.00                         | 1     | 12.79                       | 14.00                         | 2     | 11.75                       |
|       |         |           |            | 50% RB High     | 50 Pos 50   | 14.00                         | 1     | 12.70                       | 14.00                         | 2     | 11.68                       |
|       |         |           |            | 100% RB         | 100 Pos 0   | 14.00                         | 1     | 12.71                       | 14.00                         | 2     | 11.65                       |
|       |         | 21350     | 2560       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.65                       | 14.00                         | 1     | 12.88                       |
|       |         |           |            | 1RB Mid         | 1 Pos 50    | 14.00                         | 0     | 13.89                       | 14.00                         | 1     | 13.05                       |
|       |         |           |            | 1RB High        | 1 Pos 99    | 14.00                         | 0     | 13.78                       | 14.00                         | 1     | 12.96                       |
|       |         |           |            | 50% RB Low      | 50 Pos 0    | 14.00                         | 1     | 12.82                       | 14.00                         | 2     | 11.77                       |
|       |         |           |            | 50% RB Mid      | 50 Pos 24   | 14.00                         | 1     | 12.79                       | 14.00                         | 2     | 11.78                       |
|       |         |           |            | 50% RB High     | 50 Pos 50   | 14.00                         | 1     | 12.80                       | 14.00                         | 2     | 11.80                       |
|       | 100% RB |           |            | 100 Pos 0       | 14.00       | 1                             | 12.78 | 14.00                       | 2                             | 11.77 |                             |
|       | 15 MHz  | 20825     | 2507.5     | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.61                       | 14.00                         | 1     | 13.22                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 14.00                         | 0     | 13.55                       | 14.00                         | 1     | 13.17                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 14.00                         | 0     | 13.66                       | 14.00                         | 1     | 13.32                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 14.00                         | 1     | 12.69                       | 14.00                         | 2     | 11.68                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 14.00                         | 1     | 12.68                       | 14.00                         | 2     | 11.69                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 14.00                         | 1     | 12.66                       | 14.00                         | 2     | 11.69                       |
|       |         |           |            | 100% RB         | 75 Pos 0    | 14.00                         | 1     | 12.66                       | 14.00                         | 2     | 11.66                       |
|       |         | 21100     | 2535       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.54                       | 14.00                         | 1     | 13.02                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 14.00                         | 0     | 13.61                       | 14.00                         | 1     | 13.05                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 14.00                         | 0     | 13.70                       | 14.00                         | 1     | 13.10                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 14.00                         | 1     | 12.67                       | 14.00                         | 2     | 11.67                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 14.00                         | 1     | 12.72                       | 14.00                         | 2     | 11.72                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 14.00                         | 1     | 12.67                       | 14.00                         | 2     | 11.66                       |
|       |         |           |            | 100% RB         | 75 Pos 0    | 14.00                         | 1     | 12.69                       | 14.00                         | 2     | 11.66                       |
|       |         | 21375     | 2562.5     | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.67                       | 14.00                         | 1     | 12.80                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 14.00                         | 0     | 13.74                       | 14.00                         | 1     | 12.88                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 14.00                         | 0     | 13.70                       | 14.00                         | 1     | 12.85                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 14.00                         | 1     | 12.73                       | 14.00                         | 2     | 11.69                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 14.00                         | 1     | 12.75                       | 14.00                         | 2     | 11.74                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 14.00                         | 1     | 12.70                       | 14.00                         | 2     | 11.75                       |
|       | 100% RB |           |            | 75 Pos 0        | 14.00       | 1                             | 12.77 | 14.00                       | 2                             | 11.73 |                             |
|       | 10 MHz  | 20800     | 2505       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.66                       | 14.00                         | 1     | 13.32                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 0     | 13.72                       | 14.00                         | 1     | 13.31                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 14.00                         | 0     | 13.69                       | 14.00                         | 1     | 13.31                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 14.00                         | 1     | 12.69                       | 14.00                         | 2     | 11.73                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 14.00                         | 1     | 12.71                       | 14.00                         | 2     | 11.74                       |
|       |         |           |            | 50% RB High     | 25 Pos 25   | 14.00                         | 1     | 12.70                       | 14.00                         | 2     | 11.76                       |
|       |         |           |            | 100% RB         | 50 Pos0     | 14.00                         | 1     | 12.73                       | 14.00                         | 2     | 11.71                       |
|       |         | 21100     | 2535       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.70                       | 14.00                         | 1     | 12.72                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 0     | 13.77                       | 14.00                         | 1     | 12.74                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 14.00                         | 0     | 13.71                       | 14.00                         | 1     | 12.71                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 14.00                         | 1     | 12.71                       | 14.00                         | 2     | 11.81                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 14.00                         | 1     | 12.75                       | 14.00                         | 2     | 11.82                       |
|       |         |           |            | 50% RB High     | 25 Pos 25   | 14.00                         | 1     | 12.74                       | 14.00                         | 2     | 11.83                       |
|       |         |           |            | 100% RB         | 50 Pos0     | 14.00                         | 1     | 12.78                       | 14.00                         | 2     | 11.77                       |
|       |         | 21400     | 2565       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.75                       | 14.00                         | 1     | 12.87                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 0     | 13.78                       | 14.00                         | 1     | 12.87                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 14.00                         | 0     | 13.77                       | 14.00                         | 1     | 12.89                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 14.00                         | 1     | 12.70                       | 14.00                         | 2     | 11.76                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 14.00                         | 1     | 12.70                       | 14.00                         | 2     | 11.76                       |
|       |         |           |            | 50% RB High     | 25 Pos 25   | 14.00                         | 1     | 12.75                       | 14.00                         | 2     | 11.79                       |
|       | 100% RB |           |            | 50 Pos0         | 14.00       | 1                             | 12.78 | 14.00                       | 2                             | 11.74 |                             |



| Band  | BW    | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|-------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |       |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 7 | 5 MHz | 20775     | 2502.5     | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.73                       | 14.00                         | 1     | 12.80                       |
|       |       |           |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 0     | 13.74                       | 14.00                         | 1     | 12.77                       |
|       |       |           |            | 1RB High        | 1 Pos 24    | 14.00                         | 0     | 13.76                       | 14.00                         | 1     | 12.81                       |
|       |       |           |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 1     | 12.68                       | 14.00                         | 2     | 11.66                       |
|       |       |           |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 1     | 12.69                       | 14.00                         | 2     | 11.65                       |
|       |       |           |            | 50% RB High     | 12 Pos 11   | 14.00                         | 1     | 12.66                       | 14.00                         | 2     | 11.64                       |
|       |       |           |            | 100% RB         | 25 Pos 0    | 14.00                         | 1     | 12.69                       | 14.00                         | 2     | 11.71                       |
|       |       | 21100     | 2535       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.76                       | 14.00                         | 1     | 13.01                       |
|       |       |           |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 0     | 13.76                       | 14.00                         | 1     | 13.02                       |
|       |       |           |            | 1RB High        | 1 Pos 24    | 14.00                         | 0     | 13.78                       | 14.00                         | 1     | 13.01                       |
|       |       |           |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 1     | 12.70                       | 14.00                         | 2     | 11.73                       |
|       |       |           |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 1     | 12.69                       | 14.00                         | 2     | 11.70                       |
|       |       |           |            | 50% RB High     | 12 Pos 11   | 14.00                         | 1     | 12.66                       | 14.00                         | 2     | 11.65                       |
|       |       |           |            | 100% RB         | 25 Pos 0    | 14.00                         | 1     | 12.67                       | 14.00                         | 2     | 11.69                       |
|       |       | 21425     | 2567.5     | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.73                       | 14.00                         | 1     | 12.60                       |
|       |       |           |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 0     | 13.85                       | 14.00                         | 1     | 12.63                       |
|       |       |           |            | 1RB High        | 1 Pos 24    | 14.00                         | 0     | 13.85                       | 14.00                         | 1     | 12.72                       |
|       |       |           |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 1     | 12.69                       | 14.00                         | 2     | 11.67                       |
|       |       |           |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 1     | 12.73                       | 14.00                         | 2     | 11.68                       |
|       |       |           |            | 50% RB High     | 12 Pos 11   | 14.00                         | 1     | 12.75                       | 14.00                         | 2     | 11.72                       |
|       |       |           |            | 100% RB         | 25 Pos 0    | 14.00                         | 1     | 12.72                       | 14.00                         | 2     | 11.77                       |

**B.2.2.6 LTE Band 12 FDD Antenna Main 5**

| Band   | BW     | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|--------|--------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|        |        |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 12 | 10 MHz | 23095     | 707.5      | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.55                       | 19.50                         | 1     | 17.83                       |
|        |        |           |            | 1RB Mid         | 1 Pos 24    | 19.50                         | 0     | 18.46                       | 19.50                         | 1     | 17.76                       |
|        |        |           |            | 1RB High        | 1 Pos 49    | 19.50                         | 0     | 18.46                       | 19.50                         | 1     | 17.71                       |
|        |        |           |            | 50% RB Low      | 25 Pos 0    | 19.50                         | 1     | 17.43                       | 19.50                         | 2     | 16.49                       |
|        |        |           |            | 50% RB Mid      | 25 Pos 12   | 19.50                         | 1     | 17.43                       | 19.50                         | 2     | 16.49                       |
|        |        |           |            | 50% RB High     | 25 Pos 24   | 19.50                         | 1     | 17.48                       | 19.50                         | 2     | 16.55                       |
|        |        |           |            | 100% RB         | 50 Pos 0    | 19.50                         | 1     | 17.47                       | 19.50                         | 2     | 16.43                       |
|        | 5 MHz  | 23035     | 701.5      | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.53                       | 19.50                         | 1     | 17.67                       |
|        |        |           |            | 1RB Mid         | 1 Pos 12    | 19.50                         | 0     | 18.51                       | 19.50                         | 1     | 17.71                       |
|        |        |           |            | 1RB High        | 1 Pos 24    | 19.50                         | 0     | 18.59                       | 19.50                         | 1     | 17.75                       |
|        |        |           |            | 50% RB Low      | 12 Pos 0    | 19.50                         | 1     | 17.49                       | 19.50                         | 2     | 16.46                       |
|        |        |           |            | 50% RB Mid      | 12 Pos 6    | 19.50                         | 1     | 17.45                       | 19.50                         | 2     | 16.41                       |
|        |        |           |            | 50% RB High     | 12 Pos 11   | 19.50                         | 1     | 17.45                       | 19.50                         | 2     | 16.38                       |
|        |        |           |            | 100% RB         | 25 Pos 0    | 19.50                         | 1     | 17.44                       | 19.50                         | 2     | 16.50                       |
|        |        | 23095     | 707.5      | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.48                       | 19.50                         | 1     | 17.67                       |
|        |        |           |            | 1RB Mid         | 1 Pos 12    | 19.50                         | 0     | 18.48                       | 19.50                         | 1     | 17.75                       |
|        |        |           |            | 1RB High        | 1 Pos 24    | 19.50                         | 0     | 18.40                       | 19.50                         | 1     | 17.65                       |
|        |        |           |            | 50% RB Low      | 12 Pos 0    | 19.50                         | 1     | 17.40                       | 19.50                         | 2     | 16.44                       |
|        |        |           |            | 50% RB Mid      | 12 Pos 6    | 19.50                         | 1     | 17.44                       | 19.50                         | 2     | 16.45                       |
|        |        |           |            | 50% RB High     | 12 Pos 11   | 19.50                         | 1     | 17.44                       | 19.50                         | 2     | 16.45                       |
|        |        |           |            | 100% RB         | 25 Pos 0    | 19.50                         | 1     | 17.42                       | 19.50                         | 2     | 16.42                       |
|        |        | 23155     | 713.5      | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.47                       | 19.50                         | 1     | 17.58                       |
|        |        |           |            | 1RB Mid         | 1 Pos 12    | 19.50                         | 0     | 18.49                       | 19.50                         | 1     | 17.59                       |
|        |        |           |            | 1RB High        | 1 Pos 24    | 19.50                         | 0     | 18.53                       | 19.50                         | 1     | 17.59                       |
|        |        |           |            | 50% RB Low      | 12 Pos 0    | 19.50                         | 1     | 17.45                       | 19.50                         | 2     | 16.38                       |
|        |        |           |            | 50% RB Mid      | 12 Pos 6    | 19.50                         | 1     | 17.39                       | 19.50                         | 2     | 16.32                       |
|        |        |           |            | 50% RB High     | 12 Pos 11   | 19.50                         | 1     | 17.40                       | 19.50                         | 2     | 16.33                       |
|        |        |           |            | 100% RB         | 25 Pos 0    | 19.50                         | 1     | 17.44                       | 19.50                         | 2     | 16.38                       |
|        | 3 MHz  | 23025     | 700.5      | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.46                       | 19.50                         | 1     | 17.75                       |
|        |        |           |            | 1RB Mid         | 1 Pos 7     | 19.50                         | 0     | 18.52                       | 19.50                         | 1     | 17.81                       |
|        |        |           |            | 1RB High        | 1 Pos 14    | 19.50                         | 0     | 18.45                       | 19.50                         | 1     | 17.75                       |
|        |        |           |            | 50% RB Low      | 8 Pos 0     | 19.50                         | 1     | 17.39                       | 19.50                         | 2     | 16.42                       |
|        |        |           |            | 50% RB Mid      | 8 Pos 4     | 19.50                         | 1     | 17.43                       | 19.50                         | 2     | 16.45                       |
|        |        |           |            | 50% RB High     | 8 Pos 7     | 19.50                         | 1     | 17.38                       | 19.50                         | 2     | 16.40                       |
|        |        |           |            | 100% RB         | 15 Pos 0    | 19.50                         | 1     | 17.43                       | 19.50                         | 2     | 16.38                       |
|        |        | 23095     | 707.5      | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.47                       | 19.50                         | 1     | 17.76                       |
|        |        |           |            | 1RB Mid         | 1 Pos 7     | 19.50                         | 0     | 18.47                       | 19.50                         | 1     | 17.77                       |
|        |        |           |            | 1RB High        | 1 Pos 14    | 19.50                         | 0     | 18.39                       | 19.50                         | 1     | 17.71                       |
|        |        |           |            | 50% RB Low      | 8 Pos 0     | 19.50                         | 1     | 17.40                       | 19.50                         | 2     | 16.39                       |
|        |        |           |            | 50% RB Mid      | 8 Pos 4     | 19.50                         | 1     | 17.43                       | 19.50                         | 2     | 16.44                       |
|        |        |           |            | 50% RB High     | 8 Pos 7     | 19.50                         | 1     | 17.39                       | 19.50                         | 2     | 16.40                       |
|        |        |           |            | 100% RB         | 15 Pos 0    | 19.50                         | 1     | 17.40                       | 19.50                         | 2     | 16.38                       |
|        |        | 23165     | 714.5      | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.42                       | 19.50                         | 1     | 17.71                       |
|        |        |           |            | 1RB Mid         | 1 Pos 7     | 19.50                         | 0     | 18.43                       | 19.50                         | 1     | 17.75                       |
|        |        |           |            | 1RB High        | 1 Pos 14    | 19.50                         | 0     | 18.40                       | 19.50                         | 1     | 17.69                       |
|        |        |           |            | 50% RB Low      | 8 Pos 0     | 19.50                         | 1     | 17.35                       | 19.50                         | 2     | 16.39                       |
|        |        |           |            | 50% RB Mid      | 8 Pos 4     | 19.50                         | 1     | 17.35                       | 19.50                         | 2     | 16.38                       |
|        |        |           |            | 50% RB High     | 8 Pos 7     | 19.50                         | 1     | 17.37                       | 19.50                         | 2     | 16.40                       |
|        |        |           |            | 100% RB         | 15 Pos 0    | 19.50                         | 1     | 17.36                       | 19.50                         | 2     | 16.35                       |

| Band   | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|--------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|        |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 12 | 1.4 MHz | 23017     | 699.7      | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.43                       | 19.50                         | 1     | 17.36                       |
|        |         |           |            | 1RB Mid         | 1 Pos 2     | 19.50                         | 0     | 18.51                       | 19.50                         | 1     | 17.45                       |
|        |         |           |            | 1RB High        | 1 Pos 5     | 19.50                         | 0     | 18.46                       | 19.50                         | 1     | 17.37                       |
|        |         |           |            | 50% RB Low      | 3 Pos 0     | 19.50                         | 1     | 18.39                       | 19.50                         | 1     | 17.60                       |
|        |         |           |            | 50% RB Mid      | 3 Pos 1     | 19.50                         | 1     | 18.39                       | 19.50                         | 1     | 17.58                       |
|        |         |           |            | 50% RB High     | 3 Pos 2     | 19.50                         | 1     | 18.45                       | 19.50                         | 1     | 17.63                       |
|        |         |           |            | 100% RB         | 6 Pos 0     | 19.50                         | 1     | 17.44                       | 19.50                         | 2     | 16.45                       |
|        |         | 23095     | 707.5      | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.52                       | 19.50                         | 1     | 17.40                       |
|        |         |           |            | 1RB Mid         | 1 Pos 2     | 19.50                         | 0     | 18.53                       | 19.50                         | 1     | 17.49                       |
|        |         |           |            | 1RB High        | 1 Pos 5     | 19.50                         | 0     | 18.50                       | 19.50                         | 1     | 17.43                       |
|        |         |           |            | 50% RB Low      | 3 Pos 0     | 19.50                         | 1     | 18.43                       | 19.50                         | 1     | 17.62                       |
|        |         |           |            | 50% RB Mid      | 3 Pos 1     | 19.50                         | 1     | 18.44                       | 19.50                         | 1     | 17.61                       |
|        |         |           |            | 50% RB High     | 3 Pos 2     | 19.50                         | 1     | 18.42                       | 19.50                         | 1     | 17.58                       |
|        |         |           |            | 100% RB         | 6 Pos 0     | 19.50                         | 1     | 17.45                       | 19.50                         | 2     | 16.44                       |
|        |         | 23173     | 715.3      | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.39                       | 19.50                         | 1     | 17.30                       |
|        |         |           |            | 1RB Mid         | 1 Pos 2     | 19.50                         | 0     | 18.42                       | 19.50                         | 1     | 17.34                       |
|        |         |           |            | 1RB High        | 1 Pos 5     | 19.50                         | 0     | 18.41                       | 19.50                         | 1     | 17.31                       |
|        |         |           |            | 50% RB Low      | 3 Pos 0     | 19.50                         | 1     | 18.35                       | 19.50                         | 1     | 17.52                       |
|        |         |           |            | 50% RB Mid      | 3 Pos 1     | 19.50                         | 1     | 18.39                       | 19.50                         | 1     | 17.56                       |
|        |         |           |            | 50% RB High     | 3 Pos 2     | 19.50                         | 1     | 18.36                       | 19.50                         | 1     | 17.59                       |
|        |         |           |            | 100% RB         | 6 Pos 0     | 19.50                         | 1     | 17.38                       | 19.50                         | 2     | 16.44                       |

**B.2.2.7 LTE Band 13 FDD Antenna Main 5**

| Band   | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|--------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|        |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 13 | 10 MHz  | 23230     | 782        | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.65                       | 19.50                         | 1     | 17.80                       |
|        |         |           |            | 1RB Mid         | 1 Pos 24    | 19.50                         | 0     | 18.65                       | 19.50                         | 1     | 17.90                       |
|        |         |           |            | 1RB High        | 1 Pos 49    | 19.50                         | 0     | 18.55                       | 19.50                         | 1     | 17.83                       |
|        |         |           |            | 50% RB Low      | 25 Pos 0    | 19.50                         | 1     | 17.50                       | 19.50                         | 2     | 16.56                       |
|        |         |           |            | 50% RB Mid      | 25 Pos 12   | 19.50                         | 1     | 17.58                       | 19.50                         | 2     | 16.65                       |
|        |         |           |            | 50% RB High     | 25 Pos 24   | 19.50                         | 1     | 17.58                       | 19.50                         | 2     | 16.67                       |
|        | 5.0 MHz | 23205     | 779.5      | 100% RB         | 50 Pos 0    | 19.50                         | 1     | 17.56                       | 19.50                         | 2     | 16.54                       |
|        |         |           |            | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.65                       | 19.50                         | 1     | 17.70                       |
|        |         |           |            | 1RB Mid         | 1 Pos 12    | 19.50                         | 0     | 18.72                       | 19.50                         | 1     | 17.77                       |
|        |         |           |            | 1RB High        | 1 Pos 24    | 19.50                         | 0     | 18.72                       | 19.50                         | 1     | 17.77                       |
|        |         |           |            | 50% RB Low      | 12 Pos 0    | 19.50                         | 1     | 17.38                       | 19.50                         | 2     | 16.40                       |
|        |         |           |            | 50% RB Mid      | 12 Pos 6    | 19.50                         | 1     | 17.54                       | 19.50                         | 2     | 16.52                       |
|        |         | 23230     | 782        | 50% RB High     | 12 Pos 11   | 19.50                         | 1     | 17.56                       | 19.50                         | 2     | 16.53                       |
|        |         |           |            | 100% RB         | 25 Pos 0    | 19.50                         | 1     | 17.47                       | 19.50                         | 2     | 16.52                       |
|        |         |           |            | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.55                       | 19.50                         | 1     | 17.72                       |
|        |         |           |            | 1RB Mid         | 1 Pos 12    | 19.50                         | 0     | 18.61                       | 19.50                         | 1     | 17.84                       |
|        |         |           |            | 1RB High        | 1 Pos 24    | 19.50                         | 0     | 18.55                       | 19.50                         | 1     | 17.77                       |
|        |         |           |            | 50% RB Low      | 12 Pos 0    | 19.50                         | 1     | 17.55                       | 19.50                         | 2     | 16.56                       |
|        |         | 23255     | 784.5      | 50% RB Mid      | 12 Pos 6    | 19.50                         | 1     | 17.52                       | 19.50                         | 2     | 16.56                       |
|        |         |           |            | 50% RB High     | 12 Pos 11   | 19.50                         | 1     | 17.58                       | 19.50                         | 2     | 16.60                       |
|        |         |           |            | 100% RB         | 25 Pos 0    | 19.50                         | 1     | 17.55                       | 19.50                         | 2     | 16.57                       |
|        |         |           |            | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.67                       | 19.50                         | 1     | 17.76                       |
|        |         |           |            | 1RB Mid         | 1 Pos 12    | 19.50                         | 0     | 18.67                       | 19.50                         | 1     | 17.77                       |
|        |         |           |            | 1RB High        | 1 Pos 24    | 19.50                         | 0     | 18.66                       | 19.50                         | 1     | 17.75                       |
|        |         |           |            | 50% RB Low      | 12 Pos 0    | 19.50                         | 1     | 17.56                       | 19.50                         | 2     | 16.49                       |
|        |         |           |            | 50% RB Mid      | 12 Pos 6    | 19.50                         | 1     | 17.54                       | 19.50                         | 2     | 16.49                       |
|        |         |           |            | 50% RB High     | 12 Pos 11   | 19.50                         | 1     | 17.54                       | 19.50                         | 2     | 16.50                       |
|        |         |           |            | 100% RB         | 25 Pos 0    | 19.50                         | 1     | 17.54                       | 19.50                         | 2     | 16.50                       |

**B.2.2.8 LTE Band 14 FDD Antenna Main 5**

| Band   | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|--------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|        |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 14 | 10 MHz  | 23330     | 793        | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.62                       | 19.50                         | 1     | 17.84                       |
|        |         |           |            | 1RB Mid         | 1 Pos 24    | 19.50                         | 0     | 18.56                       | 19.50                         | 1     | 17.86                       |
|        |         |           |            | 1RB High        | 1 Pos 49    | 19.50                         | 0     | 18.55                       | 19.50                         | 1     | 17.81                       |
|        |         |           |            | 50% RB Low      | 25 Pos 0    | 19.50                         | 1     | 17.52                       | 19.50                         | 2     | 16.61                       |
|        |         |           |            | 50% RB Mid      | 25 Pos 12   | 19.50                         | 1     | 17.53                       | 19.50                         | 2     | 16.63                       |
|        |         |           |            | 50% RB High     | 25 Pos 24   | 19.50                         | 1     | 17.61                       | 19.50                         | 2     | 16.69                       |
|        | 5.0 MHz | 23305     | 790.5      | 100% RB         | 50 Pos 0    | 19.50                         | 1     | 17.59                       | 19.50                         | 2     | 16.58                       |
|        |         |           |            | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.68                       | 19.50                         | 1     | 17.76                       |
|        |         |           |            | 1RB Mid         | 1 Pos 12    | 19.50                         | 0     | 18.66                       | 19.50                         | 1     | 17.78                       |
|        |         |           |            | 1RB High        | 1 Pos 24    | 19.50                         | 0     | 18.67                       | 19.50                         | 1     | 17.84                       |
|        |         |           |            | 50% RB Low      | 12 Pos 0    | 19.50                         | 1     | 17.50                       | 19.50                         | 2     | 16.49                       |
|        |         |           |            | 50% RB Mid      | 12 Pos 6    | 19.50                         | 1     | 17.54                       | 19.50                         | 2     | 16.50                       |
|        |         | 23330     | 793        | 50% RB High     | 12 Pos 11   | 19.50                         | 1     | 17.57                       | 19.50                         | 2     | 16.52                       |
|        |         |           |            | 100% RB         | 25 Pos 0    | 19.50                         | 1     | 17.56                       | 19.50                         | 2     | 16.59                       |
|        |         |           |            | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.54                       | 19.50                         | 1     | 17.76                       |
|        |         |           |            | 1RB Mid         | 1 Pos 12    | 19.50                         | 0     | 18.58                       | 19.50                         | 1     | 17.82                       |
|        |         |           |            | 1RB High        | 1 Pos 24    | 19.50                         | 0     | 18.52                       | 19.50                         | 1     | 17.76                       |
|        |         |           |            | 50% RB Low      | 12 Pos 0    | 19.50                         | 1     | 17.55                       | 19.50                         | 2     | 16.54                       |
|        |         | 23355     | 795.5      | 50% RB Mid      | 12 Pos 6    | 19.50                         | 1     | 17.54                       | 19.50                         | 2     | 16.56                       |
|        |         |           |            | 50% RB High     | 12 Pos 11   | 19.50                         | 1     | 17.53                       | 19.50                         | 2     | 16.55                       |
|        |         |           |            | 100% RB         | 25 Pos 0    | 19.50                         | 1     | 17.55                       | 19.50                         | 2     | 16.57                       |
|        |         |           |            | 1RB Low         | 1 Pos 0     | 19.50                         | 0     | 18.60                       | 19.50                         | 1     | 17.67                       |
|        |         |           |            | 1RB Mid         | 1 Pos 12    | 19.50                         | 0     | 18.63                       | 19.50                         | 1     | 17.74                       |
|        |         |           |            | 1RB High        | 1 Pos 24    | 19.50                         | 0     | 18.61                       | 19.50                         | 1     | 17.65                       |
|        |         |           |            | 50% RB Low      | 12 Pos 0    | 19.50                         | 1     | 17.54                       | 19.50                         | 2     | 16.49                       |
|        |         |           |            | 50% RB Mid      | 12 Pos 6    | 19.50                         | 1     | 17.54                       | 19.50                         | 2     | 16.49                       |
|        |         |           |            | 50% RB High     | 12 Pos 11   | 19.50                         | 1     | 17.57                       | 19.50                         | 2     | 16.48                       |
|        |         |           |            | 100% RB         | 25 Pos 0    | 19.50                         | 1     | 17.53                       | 19.50                         | 2     | 16.50                       |

#### **B.2.2.9 LTE Band 17 FDD Antenna Main 5 & Antenna Aux 8**

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

## B.2.2.10 LTE Band 25 FDD Antenna Main 5

| Band   | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|--------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|        |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 25 | 20 MHz  | 26140     | 1860.0     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 15.99                       | 16.50                         | 1     | 15.08                       |
|        |         |           |            | 1RB Mid         | 1 Pos 50    | 16.50                         | 0     | 16.09                       | 16.50                         | 1     | 15.23                       |
|        |         |           |            | 1RB High        | 1 Pos 99    | 16.50                         | 0     | 15.93                       | 16.50                         | 1     | 15.13                       |
|        |         |           |            | 50% RB Low      | 50 Pos 0    | 16.50                         | 1     | 15.09                       | 16.50                         | 2     | 14.14                       |
|        |         |           |            | 50% RB Mid      | 50 Pos 24   | 16.50                         | 1     | 15.07                       | 16.50                         | 2     | 14.14                       |
|        |         |           |            | 50% RB High     | 50 Pos 50   | 16.50                         | 1     | 14.96                       | 16.50                         | 2     | 14.03                       |
|        |         |           |            | 100% RB         | 100 Pos 0   | 16.50                         | 1     | 15.07                       | 16.50                         | 2     | 14.10                       |
|        |         | 26365     | 1882.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 15.97                       | 16.50                         | 1     | 14.82                       |
|        |         |           |            | 1RB Mid         | 1 Pos 50    | 16.50                         | 0     | 15.98                       | 16.50                         | 1     | 14.88                       |
|        |         |           |            | 1RB High        | 1 Pos 99    | 16.50                         | 0     | 15.87                       | 16.50                         | 1     | 14.76                       |
|        |         |           |            | 50% RB Low      | 50 Pos 0    | 16.50                         | 1     | 14.92                       | 16.50                         | 2     | 14.05                       |
|        |         |           |            | 50% RB Mid      | 50 Pos 24   | 16.50                         | 1     | 15.10                       | 16.50                         | 2     | 14.18                       |
|        |         |           |            | 50% RB High     | 50 Pos 50   | 16.50                         | 1     | 14.97                       | 16.50                         | 2     | 14.05                       |
|        |         |           |            | 100% RB         | 100 Pos 0   | 16.50                         | 1     | 14.92                       | 16.50                         | 2     | 13.98                       |
|        |         | 26590     | 1905.0     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 15.97                       | 16.50                         | 1     | 14.77                       |
|        |         |           |            | 1RB Mid         | 1 Pos 50    | 16.50                         | 0     | 16.10                       | 16.50                         | 1     | 14.95                       |
|        |         |           |            | 1RB High        | 1 Pos 99    | 16.50                         | 0     | 16.04                       | 16.50                         | 1     | 14.89                       |
|        |         |           |            | 50% RB Low      | 50 Pos 0    | 16.50                         | 1     | 15.00                       | 16.50                         | 2     | 14.02                       |
|        |         |           |            | 50% RB Mid      | 50 Pos 24   | 16.50                         | 1     | 15.10                       | 16.50                         | 2     | 14.09                       |
|        |         |           |            | 50% RB High     | 50 Pos 50   | 16.50                         | 1     | 14.97                       | 16.50                         | 2     | 14.03                       |
|        | 100% RB |           |            | 100 Pos 0       | 16.50       | 1                             | 14.98 | 16.50                       | 2                             | 14.04 |                             |
|        | 15 MHz  | 26115     | 1857.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 15.99                       | 16.50                         | 1     | 15.27                       |
|        |         |           |            | 1RB Mid         | 1 Pos 38    | 16.50                         | 0     | 15.91                       | 16.50                         | 1     | 15.22                       |
|        |         |           |            | 1RB High        | 1 Pos 74    | 16.50                         | 0     | 16.09                       | 16.50                         | 1     | 15.39                       |
|        |         |           |            | 50% RB Low      | 38 Pos 0    | 16.50                         | 1     | 15.00                       | 16.50                         | 2     | 14.11                       |
|        |         |           |            | 50% RB Mid      | 38 Pos 19   | 16.50                         | 1     | 15.03                       | 16.50                         | 2     | 14.07                       |
|        |         |           |            | 50% RB High     | 38 Pos 39   | 16.50                         | 1     | 14.94                       | 16.50                         | 2     | 14.00                       |
|        |         |           |            | 100% RB         | 75 Pos 0    | 16.50                         | 1     | 14.95                       | 16.50                         | 2     | 14.09                       |
|        |         | 26365     | 1882.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.11                       | 16.50                         | 1     | 15.04                       |
|        |         |           |            | 1RB Mid         | 1 Pos 38    | 16.50                         | 0     | 16.01                       | 16.50                         | 1     | 14.94                       |
|        |         |           |            | 1RB High        | 1 Pos 74    | 16.50                         | 0     | 16.12                       | 16.50                         | 1     | 15.15                       |
|        |         |           |            | 50% RB Low      | 38 Pos 0    | 16.50                         | 1     | 14.98                       | 16.50                         | 2     | 14.04                       |
|        |         |           |            | 50% RB Mid      | 38 Pos 19   | 16.50                         | 1     | 15.03                       | 16.50                         | 2     | 14.07                       |
|        |         |           |            | 50% RB High     | 38 Pos 39   | 16.50                         | 1     | 14.95                       | 16.50                         | 2     | 14.04                       |
|        |         |           |            | 100% RB         | 75 Pos 0    | 16.50                         | 1     | 14.98                       | 16.50                         | 2     | 14.08                       |
|        |         | 26615     | 1907.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 15.91                       | 16.50                         | 1     | 15.05                       |
|        |         |           |            | 1RB Mid         | 1 Pos 38    | 16.50                         | 0     | 15.95                       | 16.50                         | 1     | 15.09                       |
|        |         |           |            | 1RB High        | 1 Pos 74    | 16.50                         | 0     | 15.99                       | 16.50                         | 1     | 15.07                       |
|        |         |           |            | 50% RB Low      | 38 Pos 0    | 16.50                         | 1     | 15.03                       | 16.50                         | 2     | 14.16                       |
|        |         |           |            | 50% RB Mid      | 38 Pos 19   | 16.50                         | 1     | 15.06                       | 16.50                         | 2     | 14.17                       |
|        |         |           |            | 50% RB High     | 38 Pos 39   | 16.50                         | 1     | 15.01                       | 16.50                         | 2     | 14.11                       |
|        | 100% RB |           |            | 75 Pos 0        | 16.50       | 1                             | 15.03 | 16.50                       | 2                             | 14.12 |                             |
|        | 10 MHz  | 26090     | 1855.0     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.05                       | 16.50                         | 1     | 15.33                       |
|        |         |           |            | 1RB Mid         | 1 Pos 24    | 16.50                         | 0     | 16.09                       | 16.50                         | 1     | 15.31                       |
|        |         |           |            | 1RB High        | 1 Pos 49    | 16.50                         | 0     | 16.07                       | 16.50                         | 1     | 15.32                       |
|        |         |           |            | 50% RB Low      | 25 Pos 0    | 16.50                         | 1     | 15.00                       | 16.50                         | 2     | 14.13                       |
|        |         |           |            | 50% RB Mid      | 25 Pos 12   | 16.50                         | 1     | 15.02                       | 16.50                         | 2     | 14.17                       |
|        |         |           |            | 50% RB High     | 25 Pos 25   | 16.50                         | 1     | 14.98                       | 16.50                         | 2     | 14.11                       |
|        |         |           |            | 100% RB         | 50 Pos0     | 16.50                         | 1     | 15.01                       | 16.50                         | 2     | 14.09                       |
|        |         | 26365     | 1882.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.14                       | 16.50                         | 1     | 14.99                       |
|        |         |           |            | 1RB Mid         | 1 Pos 24    | 16.50                         | 0     | 16.11                       | 16.50                         | 1     | 15.03                       |
|        |         |           |            | 1RB High        | 1 Pos 49    | 16.50                         | 0     | 16.11                       | 16.50                         | 1     | 14.95                       |
|        |         |           |            | 50% RB Low      | 25 Pos 0    | 16.50                         | 1     | 15.00                       | 16.50                         | 2     | 14.11                       |
|        |         |           |            | 50% RB Mid      | 25 Pos 12   | 16.50                         | 1     | 15.07                       | 16.50                         | 2     | 14.16                       |
|        |         |           |            | 50% RB High     | 25 Pos 25   | 16.50                         | 1     | 15.05                       | 16.50                         | 2     | 14.17                       |
|        |         |           |            | 100% RB         | 50 Pos0     | 16.50                         | 1     | 15.06                       | 16.50                         | 2     | 14.14                       |
|        |         | 26640     | 1910.0     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.01                       | 16.50                         | 1     | 15.07                       |
|        |         |           |            | 1RB Mid         | 1 Pos 24    | 16.50                         | 0     | 16.03                       | 16.50                         | 1     | 15.11                       |
|        |         |           |            | 1RB High        | 1 Pos 49    | 16.50                         | 0     | 16.06                       | 16.50                         | 1     | 15.16                       |
|        |         |           |            | 50% RB Low      | 25 Pos 0    | 16.50                         | 1     | 15.09                       | 16.50                         | 2     | 14.24                       |
|        |         |           |            | 50% RB Mid      | 25 Pos 12   | 16.50                         | 1     | 15.03                       | 16.50                         | 2     | 14.17                       |
|        |         |           |            | 50% RB High     | 25 Pos 25   | 16.50                         | 1     | 15.02                       | 16.50                         | 2     | 14.13                       |
|        | 100% RB |           |            | 50 Pos0         | 16.50       | 1                             | 15.09 | 16.50                       | 2                             | 14.13 |                             |

| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE25 | 5 MHz   | 26065     | 1852.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.13                       | 16.50                         | 1     | 15.23                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 16.50                         | 0     | 16.16                       | 16.50                         | 1     | 15.26                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 16.50                         | 0     | 16.14                       | 16.50                         | 1     | 15.22                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 16.50                         | 1     | 14.99                       | 16.50                         | 2     | 14.06                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 16.50                         | 1     | 15.01                       | 16.50                         | 2     | 14.05                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 16.50                         | 1     | 15.03                       | 16.50                         | 2     | 14.11                       |
|       |         |           |            | 100% RB         | 75 Pos 0    | 16.50                         | 1     | 15.00                       | 16.50                         | 2     | 14.13                       |
|       |         | 26365     | 1882.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.06                       | 16.50                         | 1     | 15.24                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 16.50                         | 0     | 16.05                       | 16.50                         | 1     | 15.29                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 16.50                         | 0     | 16.04                       | 16.50                         | 1     | 15.23                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 16.50                         | 1     | 14.98                       | 16.50                         | 2     | 14.15                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 16.50                         | 1     | 15.00                       | 16.50                         | 2     | 14.15                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 16.50                         | 1     | 14.97                       | 16.50                         | 2     | 14.12                       |
|       |         |           |            | 100% RB         | 75 Pos 0    | 16.50                         | 1     | 15.03                       | 16.50                         | 2     | 14.12                       |
|       |         | 26665     | 1912.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.15                       | 16.50                         | 1     | 15.28                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 16.50                         | 0     | 16.17                       | 16.50                         | 1     | 15.30                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 16.50                         | 0     | 16.23                       | 16.50                         | 1     | 15.32                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 16.50                         | 1     | 15.15                       | 16.50                         | 2     | 14.16                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 16.50                         | 1     | 15.10                       | 16.50                         | 2     | 14.11                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 16.50                         | 1     | 15.10                       | 16.50                         | 2     | 14.12                       |
|       | 100% RB |           |            | 75 Pos 0        | 16.50       | 1                             | 15.09 | 16.50                       | 2                             | 14.14 |                             |
|       | 3 MHz   | 26055     | 1851.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.03                       | 16.50                         | 1     | 15.31                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 16.50                         | 0     | 16.08                       | 16.50                         | 1     | 15.35                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 16.50                         | 0     | 16.03                       | 16.50                         | 1     | 15.32                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 16.50                         | 1     | 14.97                       | 16.50                         | 2     | 14.09                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 16.50                         | 1     | 14.97                       | 16.50                         | 2     | 14.11                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 16.50                         | 1     | 14.97                       | 16.50                         | 2     | 14.11                       |
|       |         |           |            | 100% RB         | 50 Pos 0    | 16.50                         | 1     | 14.97                       | 16.50                         | 2     | 14.07                       |
|       |         | 26365     | 1882.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.08                       | 16.50                         | 1     | 15.32                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 16.50                         | 0     | 16.13                       | 16.50                         | 1     | 15.33                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 16.50                         | 0     | 16.03                       | 16.50                         | 1     | 15.29                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 16.50                         | 1     | 14.97                       | 16.50                         | 2     | 14.08                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 16.50                         | 1     | 14.93                       | 16.50                         | 2     | 14.06                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 16.50                         | 1     | 14.92                       | 16.50                         | 2     | 14.05                       |
|       |         |           |            | 100% RB         | 50 Pos 0    | 16.50                         | 1     | 14.96                       | 16.50                         | 2     | 14.03                       |
|       |         | 26675     | 1913.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.11                       | 16.50                         | 1     | 15.37                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 16.50                         | 0     | 16.15                       | 16.50                         | 1     | 15.43                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 16.50                         | 0     | 16.08                       | 16.50                         | 1     | 15.38                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 16.50                         | 1     | 15.05                       | 16.50                         | 2     | 14.15                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 16.50                         | 1     | 15.08                       | 16.50                         | 2     | 14.19                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 16.50                         | 1     | 15.05                       | 16.50                         | 2     | 14.16                       |
|       | 100% RB |           |            | 50 Pos 0        | 16.50       | 1                             | 15.09 | 16.50                       | 2                             | 14.15 |                             |
|       | 1.4 MHz | 26047     | 1850.7     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.07                       | 16.50                         | 1     | 14.95                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 16.50                         | 0     | 16.08                       | 16.50                         | 1     | 15.03                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 16.50                         | 0     | 16.01                       | 16.50                         | 1     | 14.95                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 16.50                         | 1     | 15.98                       | 16.50                         | 1     | 15.18                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 16.50                         | 1     | 16.00                       | 16.50                         | 1     | 15.20                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 16.50                         | 1     | 15.98                       | 16.50                         | 1     | 15.22                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 16.50                         | 1     | 15.01                       | 16.50                         | 2     | 14.15                       |
|       |         | 26365     | 1882.5     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 15.97                       | 16.50                         | 1     | 14.87                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 16.50                         | 0     | 16.02                       | 16.50                         | 1     | 14.96                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 16.50                         | 0     | 15.97                       | 16.50                         | 1     | 14.87                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 16.50                         | 1     | 15.97                       | 16.50                         | 1     | 15.18                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 16.50                         | 1     | 15.97                       | 16.50                         | 1     | 15.20                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 16.50                         | 1     | 15.96                       | 16.50                         | 1     | 15.17                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 16.50                         | 1     | 14.99                       | 16.50                         | 2     | 14.15                       |
|       |         | 26683     | 1914.3     | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.09                       | 16.50                         | 1     | 15.02                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 16.50                         | 0     | 16.12                       | 16.50                         | 1     | 15.08                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 16.50                         | 0     | 16.06                       | 16.50                         | 1     | 14.99                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 16.50                         | 1     | 16.05                       | 16.50                         | 1     | 15.25                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 16.50                         | 1     | 16.08                       | 16.50                         | 1     | 15.24                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 16.50                         | 1     | 16.08                       | 16.50                         | 1     | 15.29                       |
|       | 100% RB |           |            | 25 Pos 0        | 16.50       | 1                             | 15.08 | 16.50                       | 2                             | 14.21 |                             |



## B.2.2.11 LTE Band 25 FDD Antenna Aux 8

| Band   | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|--------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|        |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 25 | 20 MHz  | 26140     | 1860.0     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.86                       | 19.00                         | 1     | 17.42                       |
|        |         |           |            | 1RB Mid         | 1 Pos 50    | 19.00                         | 0     | 17.88                       | 19.00                         | 1     | 17.50                       |
|        |         |           |            | 1RB High        | 1 Pos 99    | 19.00                         | 0     | 17.76                       | 19.00                         | 1     | 17.32                       |
|        |         |           |            | 50% RB Low      | 50 Pos 0    | 19.00                         | 1     | 16.81                       | 19.00                         | 2     | 15.78                       |
|        |         |           |            | 50% RB Mid      | 50 Pos 24   | 19.00                         | 1     | 16.96                       | 19.00                         | 2     | 15.91                       |
|        |         |           |            | 50% RB High     | 50 Pos 50   | 19.00                         | 1     | 16.86                       | 19.00                         | 2     | 15.84                       |
|        |         |           |            | 100% RB         | 100 Pos 0   | 19.00                         | 1     | 16.84                       | 19.00                         | 2     | 15.81                       |
|        |         | 26365     | 1882.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.80                       | 19.00                         | 1     | 17.08                       |
|        |         |           |            | 1RB Mid         | 1 Pos 50    | 19.00                         | 0     | 17.94                       | 19.00                         | 1     | 17.22                       |
|        |         |           |            | 1RB High        | 1 Pos 99    | 19.00                         | 0     | 17.80                       | 19.00                         | 1     | 17.11                       |
|        |         |           |            | 50% RB Low      | 50 Pos 0    | 19.00                         | 1     | 16.85                       | 19.00                         | 2     | 15.82                       |
|        |         |           |            | 50% RB Mid      | 50 Pos 24   | 19.00                         | 1     | 16.90                       | 19.00                         | 2     | 15.89                       |
|        |         |           |            | 50% RB High     | 50 Pos 50   | 19.00                         | 1     | 16.82                       | 19.00                         | 2     | 15.79                       |
|        |         |           |            | 100% RB         | 100 Pos 0   | 19.00                         | 1     | 16.85                       | 19.00                         | 2     | 15.85                       |
|        |         | 26590     | 1905.0     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.81                       | 19.00                         | 1     | 16.99                       |
|        |         |           |            | 1RB Mid         | 1 Pos 50    | 19.00                         | 0     | 17.92                       | 19.00                         | 1     | 17.11                       |
|        |         |           |            | 1RB High        | 1 Pos 99    | 19.00                         | 0     | 17.89                       | 19.00                         | 1     | 17.05                       |
|        |         |           |            | 50% RB Low      | 50 Pos 0    | 19.00                         | 1     | 16.89                       | 19.00                         | 2     | 15.86                       |
|        |         |           |            | 50% RB Mid      | 50 Pos 24   | 19.00                         | 1     | 16.96                       | 19.00                         | 2     | 15.86                       |
|        |         |           |            | 50% RB High     | 50 Pos 50   | 19.00                         | 1     | 16.80                       | 19.00                         | 2     | 15.77                       |
|        | 100% RB |           |            | 100 Pos 0       | 19.00       | 1                             | 16.81 | 19.00                       | 2                             | 15.82 |                             |
|        | 15 MHz  | 26115     | 1857.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.82                       | 19.00                         | 1     | 17.27                       |
|        |         |           |            | 1RB Mid         | 1 Pos 38    | 19.00                         | 0     | 17.73                       | 19.00                         | 1     | 17.14                       |
|        |         |           |            | 1RB High        | 1 Pos 74    | 19.00                         | 0     | 17.82                       | 19.00                         | 1     | 17.23                       |
|        |         |           |            | 50% RB Low      | 38 Pos 0    | 19.00                         | 1     | 16.85                       | 19.00                         | 2     | 15.84                       |
|        |         |           |            | 50% RB Mid      | 38 Pos 19   | 19.00                         | 1     | 16.88                       | 19.00                         | 2     | 15.87                       |
|        |         |           |            | 50% RB High     | 38 Pos 39   | 19.00                         | 1     | 16.82                       | 19.00                         | 2     | 15.87                       |
|        |         |           |            | 100% RB         | 75 Pos 0    | 19.00                         | 1     | 16.82                       | 19.00                         | 2     | 15.80                       |
|        |         | 26365     | 1882.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.77                       | 19.00                         | 1     | 17.37                       |
|        |         |           |            | 1RB Mid         | 1 Pos 38    | 19.00                         | 0     | 17.74                       | 19.00                         | 1     | 17.37                       |
|        |         |           |            | 1RB High        | 1 Pos 74    | 19.00                         | 0     | 17.84                       | 19.00                         | 1     | 17.43                       |
|        |         |           |            | 50% RB Low      | 38 Pos 0    | 19.00                         | 1     | 16.79                       | 19.00                         | 2     | 15.86                       |
|        |         |           |            | 50% RB Mid      | 38 Pos 19   | 19.00                         | 1     | 16.85                       | 19.00                         | 2     | 15.88                       |
|        |         |           |            | 50% RB High     | 38 Pos 39   | 19.00                         | 1     | 16.82                       | 19.00                         | 2     | 15.84                       |
|        |         |           |            | 100% RB         | 75 Pos 0    | 19.00                         | 1     | 16.83                       | 19.00                         | 2     | 15.80                       |
|        |         | 26615     | 1907.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.81                       | 19.00                         | 1     | 16.95                       |
|        |         |           |            | 1RB Mid         | 1 Pos 38    | 19.00                         | 0     | 17.83                       | 19.00                         | 1     | 16.98                       |
|        |         |           |            | 1RB High        | 1 Pos 74    | 19.00                         | 0     | 17.85                       | 19.00                         | 1     | 16.99                       |
|        |         |           |            | 50% RB Low      | 38 Pos 0    | 19.00                         | 1     | 16.88                       | 19.00                         | 2     | 15.87                       |
|        |         |           |            | 50% RB Mid      | 38 Pos 19   | 19.00                         | 1     | 16.92                       | 19.00                         | 2     | 15.88                       |
|        |         |           |            | 50% RB High     | 38 Pos 39   | 19.00                         | 1     | 16.85                       | 19.00                         | 2     | 15.83                       |
|        | 100% RB |           |            | 75 Pos 0        | 19.00       | 1                             | 16.88 | 19.00                       | 2                             | 15.87 |                             |
|        | 10 MHz  | 26090     | 1855.0     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.91                       | 19.00                         | 1     | 16.89                       |
|        |         |           |            | 1RB Mid         | 1 Pos 24    | 19.00                         | 0     | 17.92                       | 19.00                         | 1     | 16.89                       |
|        |         |           |            | 1RB High        | 1 Pos 49    | 19.00                         | 0     | 17.86                       | 19.00                         | 1     | 16.86                       |
|        |         |           |            | 50% RB Low      | 25 Pos 0    | 19.00                         | 1     | 16.85                       | 19.00                         | 2     | 15.94                       |
|        |         |           |            | 50% RB Mid      | 25 Pos 12   | 19.00                         | 1     | 16.91                       | 19.00                         | 2     | 15.99                       |
|        |         |           |            | 50% RB High     | 25 Pos 25   | 19.00                         | 1     | 16.94                       | 19.00                         | 2     | 16.01                       |
|        |         |           |            | 100% RB         | 50 Pos0     | 19.00                         | 1     | 16.89                       | 19.00                         | 2     | 15.90                       |
|        |         | 26365     | 1882.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.86                       | 19.00                         | 1     | 17.40                       |
|        |         |           |            | 1RB Mid         | 1 Pos 24    | 19.00                         | 0     | 17.84                       | 19.00                         | 1     | 17.40                       |
|        |         |           |            | 1RB High        | 1 Pos 49    | 19.00                         | 0     | 17.85                       | 19.00                         | 1     | 17.42                       |
|        |         |           |            | 50% RB Low      | 25 Pos 0    | 19.00                         | 1     | 16.80                       | 19.00                         | 2     | 15.87                       |
|        |         |           |            | 50% RB Mid      | 25 Pos 12   | 19.00                         | 1     | 16.85                       | 19.00                         | 2     | 15.91                       |
|        |         |           |            | 50% RB High     | 25 Pos 25   | 19.00                         | 1     | 16.80                       | 19.00                         | 2     | 15.85                       |
|        |         |           |            | 100% RB         | 50 Pos0     | 19.00                         | 1     | 16.85                       | 19.00                         | 2     | 15.83                       |
|        |         | 26640     | 1910.0     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.82                       | 19.00                         | 1     | 16.98                       |
|        |         |           |            | 1RB Mid         | 1 Pos 24    | 19.00                         | 0     | 17.89                       | 19.00                         | 1     | 17.03                       |
|        |         |           |            | 1RB High        | 1 Pos 49    | 19.00                         | 0     | 17.90                       | 19.00                         | 1     | 17.02                       |
|        |         |           |            | 50% RB Low      | 25 Pos 0    | 19.00                         | 1     | 16.91                       | 19.00                         | 2     | 15.95                       |
|        |         |           |            | 50% RB Mid      | 25 Pos 12   | 19.00                         | 1     | 16.90                       | 19.00                         | 2     | 15.92                       |
|        |         |           |            | 50% RB High     | 25 Pos 25   | 19.00                         | 1     | 16.83                       | 19.00                         | 2     | 15.85                       |
|        | 100% RB |           |            | 50 Pos0         | 19.00       | 1                             | 16.89 | 19.00                       | 2                             | 15.86 |                             |

| Band | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|      |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| TE25 | 5 MHz   | 26065     | 1852.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.95                       | 19.00                         | 1     | 16.75                       |
|      |         |           |            | 1RB Mid         | 1 Pos 38    | 19.00                         | 0     | 18.06                       | 19.00                         | 1     | 16.78                       |
|      |         |           |            | 1RB High        | 1 Pos 74    | 19.00                         | 0     | 17.95                       | 19.00                         | 1     | 16.72                       |
|      |         |           |            | 50% RB Low      | 38 Pos 0    | 19.00                         | 1     | 16.78                       | 19.00                         | 2     | 15.77                       |
|      |         |           |            | 50% RB Mid      | 38 Pos 19   | 19.00                         | 1     | 16.83                       | 19.00                         | 2     | 15.79                       |
|      |         |           |            | 50% RB High     | 38 Pos 39   | 19.00                         | 1     | 16.83                       | 19.00                         | 2     | 15.83                       |
|      |         | 26365     | 1882.5     | 100% RB         | 75 Pos 0    | 19.00                         | 1     | 16.80                       | 19.00                         | 2     | 15.86                       |
|      |         |           |            | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.97                       | 19.00                         | 1     | 16.98                       |
|      |         |           |            | 1RB Mid         | 1 Pos 38    | 19.00                         | 0     | 17.94                       | 19.00                         | 1     | 16.92                       |
|      |         |           |            | 1RB High        | 1 Pos 74    | 19.00                         | 0     | 17.95                       | 19.00                         | 1     | 16.94                       |
|      |         |           |            | 50% RB Low      | 38 Pos 0    | 19.00                         | 1     | 16.88                       | 19.00                         | 2     | 15.82                       |
|      |         |           |            | 50% RB Mid      | 38 Pos 19   | 19.00                         | 1     | 16.87                       | 19.00                         | 2     | 15.83                       |
|      |         |           |            | 50% RB High     | 38 Pos 39   | 19.00                         | 1     | 16.87                       | 19.00                         | 2     | 15.80                       |
|      |         |           |            | 100% RB         | 75 Pos 0    | 19.00                         | 1     | 16.85                       | 19.00                         | 2     | 15.90                       |
|      |         | 26665     | 1912.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.91                       | 19.00                         | 1     | 17.18                       |
|      |         |           |            | 1RB Mid         | 1 Pos 38    | 19.00                         | 0     | 17.95                       | 19.00                         | 1     | 17.19                       |
|      |         |           |            | 1RB High        | 1 Pos 74    | 19.00                         | 0     | 17.98                       | 19.00                         | 1     | 17.22                       |
|      |         |           |            | 50% RB Low      | 38 Pos 0    | 19.00                         | 1     | 16.94                       | 19.00                         | 2     | 15.92                       |
|      |         |           |            | 50% RB Mid      | 38 Pos 19   | 19.00                         | 1     | 16.92                       | 19.00                         | 2     | 15.91                       |
|      |         |           |            | 50% RB High     | 38 Pos 39   | 19.00                         | 1     | 16.89                       | 19.00                         | 2     | 15.89                       |
|      | 3 MHz   | 26055     | 1851.5     | 100% RB         | 75 Pos 0    | 19.00                         | 1     | 16.91                       | 19.00                         | 2     | 15.91                       |
|      |         |           |            | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.79                       | 19.00                         | 1     | 17.40                       |
|      |         |           |            | 1RB Mid         | 1 Pos 24    | 19.00                         | 0     | 17.80                       | 19.00                         | 1     | 17.32                       |
|      |         |           |            | 1RB High        | 1 Pos 49    | 19.00                         | 0     | 17.80                       | 19.00                         | 1     | 17.34                       |
|      |         |           |            | 50% RB Low      | 25 Pos 0    | 19.00                         | 1     | 16.76                       | 19.00                         | 2     | 15.95                       |
|      |         |           |            | 50% RB Mid      | 25 Pos 12   | 19.00                         | 1     | 16.79                       | 19.00                         | 2     | 15.95                       |
|      |         | 26365     | 1882.5     | 50% RB High     | 25 Pos 24   | 19.00                         | 1     | 16.79                       | 19.00                         | 2     | 15.95                       |
|      |         |           |            | 100% RB         | 50 Pos 0    | 19.00                         | 1     | 16.77                       | 19.00                         | 2     | 15.83                       |
|      |         |           |            | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.88                       | 19.00                         | 1     | 17.38                       |
|      |         |           |            | 1RB Mid         | 1 Pos 24    | 19.00                         | 0     | 17.85                       | 19.00                         | 1     | 17.36                       |
|      |         |           |            | 1RB High        | 1 Pos 49    | 19.00                         | 0     | 17.82                       | 19.00                         | 1     | 17.34                       |
|      |         |           |            | 50% RB Low      | 25 Pos 0    | 19.00                         | 1     | 16.78                       | 19.00                         | 2     | 15.99                       |
|      |         | 26675     | 1913.5     | 50% RB Mid      | 25 Pos 12   | 19.00                         | 1     | 16.77                       | 19.00                         | 2     | 15.96                       |
|      |         |           |            | 50% RB High     | 25 Pos 24   | 19.00                         | 1     | 16.76                       | 19.00                         | 2     | 15.96                       |
|      |         |           |            | 100% RB         | 50 Pos 0    | 19.00                         | 1     | 16.79                       | 19.00                         | 2     | 15.86                       |
|      |         |           |            | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.90                       | 19.00                         | 1     | 17.42                       |
|      |         |           |            | 1RB Mid         | 1 Pos 24    | 19.00                         | 0     | 17.91                       | 19.00                         | 1     | 17.43                       |
|      |         |           |            | 1RB High        | 1 Pos 49    | 19.00                         | 0     | 17.90                       | 19.00                         | 1     | 17.41                       |
|      | 1.4 MHz | 26047     | 1850.7     | 50% RB Low      | 25 Pos 0    | 19.00                         | 1     | 16.87                       | 19.00                         | 2     | 16.07                       |
|      |         |           |            | 50% RB Mid      | 25 Pos 12   | 19.00                         | 1     | 16.90                       | 19.00                         | 2     | 16.08                       |
|      |         |           |            | 50% RB High     | 25 Pos 24   | 19.00                         | 1     | 16.88                       | 19.00                         | 2     | 16.05                       |
|      |         |           |            | 100% RB         | 50 Pos 0    | 19.00                         | 1     | 16.90                       | 19.00                         | 2     | 15.96                       |
|      |         |           |            | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.77                       | 19.00                         | 1     | 16.81                       |
|      |         |           |            | 1RB Mid         | 1 Pos 12    | 19.00                         | 0     | 17.76                       | 19.00                         | 1     | 16.80                       |
|      |         | 26365     | 1882.5     | 1RB High        | 1 Pos 24    | 19.00                         | 0     | 17.80                       | 19.00                         | 1     | 16.83                       |
|      |         |           |            | 50% RB Low      | 12 Pos 0    | 19.00                         | 1     | 17.82                       | 19.00                         | 1     | 16.96                       |
|      |         |           |            | 50% RB Mid      | 12 Pos 6    | 19.00                         | 1     | 17.86                       | 19.00                         | 1     | 16.99                       |
|      |         |           |            | 50% RB High     | 12 Pos 11   | 19.00                         | 1     | 17.84                       | 19.00                         | 1     | 16.97                       |
|      |         |           |            | 100% RB         | 25 Pos 0    | 19.00                         | 1     | 16.83                       | 19.00                         | 2     | 15.79                       |
|      |         |           |            | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.82                       | 19.00                         | 1     | 16.88                       |
|      |         | 26683     | 1914.3     | 1RB Mid         | 1 Pos 12    | 19.00                         | 0     | 17.79                       | 19.00                         | 1     | 16.85                       |
|      |         |           |            | 1RB High        | 1 Pos 24    | 19.00                         | 0     | 17.81                       | 19.00                         | 1     | 16.86                       |
|      |         |           |            | 50% RB Low      | 12 Pos 0    | 19.00                         | 1     | 17.86                       | 19.00                         | 1     | 17.01                       |
|      |         |           |            | 50% RB Mid      | 12 Pos 6    | 19.00                         | 1     | 17.89                       | 19.00                         | 1     | 17.03                       |
|      |         |           |            | 50% RB High     | 12 Pos 11   | 19.00                         | 1     | 17.82                       | 19.00                         | 1     | 17.01                       |
|      |         |           |            | 100% RB         | 25 Pos 0    | 19.00                         | 1     | 16.84                       | 19.00                         | 2     | 15.83                       |
|      |         | 26683     | 1914.3     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.85                       | 19.00                         | 1     | 16.93                       |
|      |         |           |            | 1RB Mid         | 1 Pos 12    | 19.00                         | 0     | 17.84                       | 19.00                         | 1     | 16.93                       |
|      |         |           |            | 1RB High        | 1 Pos 24    | 19.00                         | 0     | 17.84                       | 19.00                         | 1     | 16.94                       |
|      |         |           |            | 50% RB Low      | 12 Pos 0    | 19.00                         | 1     | 17.94                       | 19.00                         | 1     | 17.08                       |
|      |         |           |            | 50% RB Mid      | 12 Pos 6    | 19.00                         | 1     | 17.96                       | 19.00                         | 1     | 17.08                       |
|      |         |           |            | 50% RB High     | 12 Pos 11   | 19.00                         | 1     | 17.92                       | 19.00                         | 1     | 17.08                       |
|      |         |           |            | 100% RB         | 25 Pos 0    | 19.00                         | 1     | 16.93                       | 19.00                         | 2     | 15.90                       |

## B.2.2.12 LTE Band 26 FDD Antenna Main 5

| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE26 | 15 MHz  | 26775     | 821.5      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.48                       | 20.00                         | 1     | 18.80                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 20.00                         | 0     | 19.52                       | 20.00                         | 1     | 18.79                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 20.00                         | 0     | 19.47                       | 20.00                         | 1     | 18.73                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 20.00                         | 1     | 18.58                       | 20.00                         | 2     | 17.56                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 20.00                         | 1     | 18.51                       | 20.00                         | 2     | 17.54                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 20.00                         | 1     | 18.49                       | 20.00                         | 2     | 17.56                       |
|       |         |           |            | 100% RB         | 75 Pos 0    | 20.00                         | 1     | 18.57                       | 20.00                         | 2     | 17.55                       |
|       |         | 26865     | 831.5      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.49                       | 20.00                         | 1     | 18.52                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 20.00                         | 0     | 19.61                       | 20.00                         | 1     | 18.59                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 20.00                         | 0     | 19.47                       | 20.00                         | 1     | 18.52                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 20.00                         | 1     | 18.49                       | 20.00                         | 2     | 17.43                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 20.00                         | 1     | 18.52                       | 20.00                         | 2     | 17.47                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 20.00                         | 1     | 18.44                       | 20.00                         | 2     | 17.40                       |
|       |         |           |            | 100% RB         | 75 Pos 0    | 20.00                         | 1     | 18.51                       | 20.00                         | 2     | 17.50                       |
|       |         | 26965     | 841.5      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.44                       | 20.00                         | 1     | 18.63                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 20.00                         | 0     | 19.51                       | 20.00                         | 1     | 18.65                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 20.00                         | 0     | 19.38                       | 20.00                         | 1     | 18.54                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 20.00                         | 1     | 18.54                       | 20.00                         | 2     | 17.56                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 20.00                         | 1     | 18.48                       | 20.00                         | 2     | 17.52                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 20.00                         | 1     | 18.48                       | 20.00                         | 2     | 17.53                       |
|       | 100% RB |           |            | 75 Pos 0        | 20.00       | 1                             | 18.56 | 20.00                       | 2                             | 17.52 |                             |
|       | 10 MHz  | 26750     | 820        | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.53                       | 20.00                         | 1     | 18.82                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 20.00                         | 0     | 19.52                       | 20.00                         | 1     | 18.81                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 20.00                         | 0     | 19.44                       | 20.00                         | 1     | 18.75                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 20.00                         | 1     | 18.58                       | 20.00                         | 2     | 17.68                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 20.00                         | 1     | 18.56                       | 20.00                         | 2     | 17.62                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 20.00                         | 1     | 18.53                       | 20.00                         | 2     | 17.61                       |
|       |         |           |            | 100% RB         | 50 Pos 0    | 20.00                         | 1     | 18.57                       | 20.00                         | 2     | 17.56                       |
|       |         | 26865     | 831.5      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.59                       | 20.00                         | 1     | 18.37                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 20.00                         | 0     | 19.57                       | 20.00                         | 1     | 18.41                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 20.00                         | 0     | 19.54                       | 20.00                         | 1     | 18.37                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 20.00                         | 1     | 18.49                       | 20.00                         | 2     | 17.51                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 20.00                         | 1     | 18.51                       | 20.00                         | 2     | 17.53                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 20.00                         | 1     | 18.47                       | 20.00                         | 2     | 17.48                       |
|       |         |           |            | 100% RB         | 50 Pos 0    | 20.00                         | 1     | 18.55                       | 20.00                         | 2     | 17.51                       |
|       |         | 26990     | 844        | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.44                       | 20.00                         | 1     | 18.62                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 20.00                         | 0     | 19.52                       | 20.00                         | 1     | 18.69                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 20.00                         | 0     | 19.46                       | 20.00                         | 1     | 18.65                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 20.00                         | 1     | 18.48                       | 20.00                         | 2     | 17.55                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 20.00                         | 1     | 18.48                       | 20.00                         | 2     | 17.54                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 20.00                         | 1     | 18.52                       | 20.00                         | 2     | 17.50                       |
|       | 100% RB |           |            | 50 Pos 0        | 20.00       | 1                             | 18.54 | 20.00                       | 2                             | 17.48 |                             |
|       | 5.0 MHz | 26715     | 816.5      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.56                       | 20.00                         | 1     | 18.82                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 20.00                         | 0     | 19.59                       | 20.00                         | 1     | 18.87                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 20.00                         | 0     | 19.63                       | 20.00                         | 1     | 18.89                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 20.00                         | 1     | 18.61                       | 20.00                         | 2     | 17.55                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 20.00                         | 1     | 18.54                       | 20.00                         | 2     | 17.56                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 20.00                         | 1     | 18.52                       | 20.00                         | 2     | 17.51                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 20.00                         | 1     | 18.58                       | 20.00                         | 2     | 17.60                       |
|       |         | 26865     | 831.5      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.54                       | 20.00                         | 1     | 18.81                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 20.00                         | 0     | 19.51                       | 20.00                         | 1     | 18.76                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 20.00                         | 0     | 19.50                       | 20.00                         | 1     | 18.75                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 20.00                         | 1     | 18.59                       | 20.00                         | 2     | 17.57                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 20.00                         | 1     | 18.51                       | 20.00                         | 2     | 17.55                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 20.00                         | 1     | 18.46                       | 20.00                         | 2     | 17.50                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 20.00                         | 1     | 18.54                       | 20.00                         | 2     | 17.54                       |
|       |         | 27015     | 846.5      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.47                       | 20.00                         | 1     | 18.71                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 20.00                         | 0     | 19.50                       | 20.00                         | 1     | 18.71                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 20.00                         | 0     | 19.57                       | 20.00                         | 1     | 18.69                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 20.00                         | 1     | 18.48                       | 20.00                         | 2     | 17.44                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 20.00                         | 1     | 18.46                       | 20.00                         | 2     | 17.43                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 20.00                         | 1     | 18.47                       | 20.00                         | 2     | 17.39                       |
|       | 100% RB |           |            | 25 Pos 0        | 20.00       | 1                             | 18.52 | 20.00                       | 2                             | 17.48 |                             |

| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE26 | 3.0 MHz | 26705     | 815.5      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.48                       | 20.00                         | 1     | 18.84                       |
|       |         |           |            | 1RB Mid         | 1 Pos 7     | 20.00                         | 0     | 19.50                       | 20.00                         | 1     | 18.79                       |
|       |         |           |            | 1RB High        | 1 Pos 14    | 20.00                         | 0     | 19.52                       | 20.00                         | 1     | 18.80                       |
|       |         |           |            | 50% RB Low      | 8 Pos 0     | 20.00                         | 1     | 18.51                       | 20.00                         | 2     | 17.53                       |
|       |         |           |            | 50% RB Mid      | 8 Pos 4     | 20.00                         | 1     | 18.51                       | 20.00                         | 2     | 17.49                       |
|       |         |           |            | 50% RB High     | 8 Pos 7     | 20.00                         | 1     | 18.53                       | 20.00                         | 2     | 17.45                       |
|       |         | 100% RB   | 15 Pos 0   | 20.00           | 1           | 18.52                         | 20.00 | 2                           | 17.53                         |       |                             |
|       |         | 26865     | 831.5      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.48                       | 20.00                         | 1     | 18.80                       |
|       |         |           |            | 1RB Mid         | 1 Pos 7     | 20.00                         | 0     | 19.48                       | 20.00                         | 1     | 18.77                       |
|       |         |           |            | 1RB High        | 1 Pos 14    | 20.00                         | 0     | 19.45                       | 20.00                         | 1     | 18.73                       |
|       |         |           |            | 50% RB Low      | 8 Pos 0     | 20.00                         | 1     | 18.49                       | 20.00                         | 2     | 17.53                       |
|       |         |           |            | 50% RB Mid      | 8 Pos 4     | 20.00                         | 1     | 18.48                       | 20.00                         | 2     | 17.49                       |
|       |         |           |            | 50% RB High     | 8 Pos 7     | 20.00                         | 1     | 18.52                       | 20.00                         | 2     | 17.50                       |
|       |         | 100% RB   | 15 Pos 0   | 20.00           | 1           | 18.51                         | 20.00 | 2                           | 17.49                         |       |                             |
|       |         | 27025     | 847.5      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.41                       | 20.00                         | 1     | 18.76                       |
|       |         |           |            | 1RB Mid         | 1 Pos 7     | 20.00                         | 0     | 19.46                       | 20.00                         | 1     | 18.77                       |
|       |         |           |            | 1RB High        | 1 Pos 14    | 20.00                         | 0     | 19.43                       | 20.00                         | 1     | 18.76                       |
|       |         |           |            | 50% RB Low      | 8 Pos 0     | 20.00                         | 1     | 18.49                       | 20.00                         | 2     | 17.51                       |
|       |         |           |            | 50% RB Mid      | 8 Pos 4     | 20.00                         | 1     | 18.47                       | 20.00                         | 2     | 17.50                       |
|       |         |           |            | 50% RB High     | 8 Pos 7     | 20.00                         | 1     | 18.41                       | 20.00                         | 2     | 17.48                       |
|       | 100% RB | 15 Pos 0  | 20.00      | 1               | 18.49       | 20.00                         | 2     | 17.44                       |                               |       |                             |
|       | 1.4 MHz | 26697     | 814.7      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.54                       | 20.00                         | 1     | 18.47                       |
|       |         |           |            | 1RB Mid         | 1 Pos 2     | 20.00                         | 0     | 19.63                       | 20.00                         | 1     | 18.58                       |
|       |         |           |            | 1RB High        | 1 Pos 5     | 20.00                         | 0     | 19.57                       | 20.00                         | 1     | 18.55                       |
|       |         |           |            | 50% RB Low      | 3 Pos 0     | 20.00                         | 1     | 19.50                       | 20.00                         | 1     | 18.71                       |
|       |         |           |            | 50% RB Mid      | 3 Pos 1     | 20.00                         | 1     | 19.53                       | 20.00                         | 1     | 18.69                       |
|       |         |           |            | 50% RB High     | 3 Pos 2     | 20.00                         | 1     | 19.52                       | 20.00                         | 1     | 18.69                       |
|       |         | 100% RB   | 6 Pos 0    | 20.00           | 1           | 18.51                         | 20.00 | 2                           | 17.59                         |       |                             |
|       |         | 26865     | 831.5      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.45                       | 20.00                         | 1     | 18.50                       |
|       |         |           |            | 1RB Mid         | 1 Pos 2     | 20.00                         | 0     | 19.40                       | 20.00                         | 1     | 18.56                       |
|       |         |           |            | 1RB High        | 1 Pos 5     | 20.00                         | 0     | 19.42                       | 20.00                         | 1     | 18.50                       |
|       |         |           |            | 50% RB Low      | 3 Pos 0     | 20.00                         | 1     | 19.34                       | 20.00                         | 1     | 18.66                       |
|       |         |           |            | 50% RB Mid      | 3 Pos 1     | 20.00                         | 1     | 19.35                       | 20.00                         | 1     | 18.64                       |
|       |         |           |            | 50% RB High     | 3 Pos 2     | 20.00                         | 1     | 19.32                       | 20.00                         | 1     | 18.64                       |
|       |         | 100% RB   | 6 Pos 0    | 20.00           | 1           | 18.48                         | 20.00 | 2                           | 17.56                         |       |                             |
|       |         | 27033     | 848.3      | 1RB Low         | 1 Pos 0     | 20.00                         | 0     | 19.31                       | 20.00                         | 1     | 18.42                       |
|       |         |           |            | 1RB Mid         | 1 Pos 2     | 20.00                         | 0     | 19.33                       | 20.00                         | 1     | 18.46                       |
|       |         |           |            | 1RB High        | 1 Pos 5     | 20.00                         | 0     | 19.28                       | 20.00                         | 1     | 18.39                       |
|       |         |           |            | 50% RB Low      | 3 Pos 0     | 20.00                         | 1     | 19.27                       | 20.00                         | 1     | 18.63                       |
|       |         |           |            | 50% RB Mid      | 3 Pos 1     | 20.00                         | 1     | 19.29                       | 20.00                         | 1     | 18.62                       |
|       |         |           |            | 50% RB High     | 3 Pos 2     | 20.00                         | 1     | 19.29                       | 20.00                         | 1     | 18.63                       |
|       | 100% RB | 6 Pos 0   | 20.00      | 1               | 18.43       | 20.00                         | 2     | 17.57                       |                               |       |                             |

**B.2.2.13 LTE Band 30 FDD Antenna Main 5**

| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE30 | 10 MHz  | 27710     | 2310       | 1RB Low         | 1 Pos 0     | 17.00                         | 0     | 16.38                       | 17.00                         | 1     | 15.18                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 17.00                         | 0     | 16.46                       | 17.00                         | 1     | 15.29                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 17.00                         | 0     | 16.41                       | 17.00                         | 1     | 15.23                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 17.00                         | 1     | 15.22                       | 17.00                         | 2     | 14.20                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 17.00                         | 1     | 15.33                       | 17.00                         | 2     | 14.35                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 17.00                         | 1     | 15.19                       | 17.00                         | 2     | 14.25                       |
|       | 5.0 MHz | 27710     | 2310       | 100% RB         | 50 Pos 0    | 17.00                         | 1     | 15.25                       | 17.00                         | 2     | 14.19                       |
|       |         |           |            | 1RB Low         | 1 Pos 0     | 17.00                         | 0     | 15.98                       | 17.00                         | 1     | 15.19                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 17.00                         | 0     | 15.98                       | 17.00                         | 1     | 15.18                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 17.00                         | 0     | 15.97                       | 17.00                         | 1     | 15.17                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 17.00                         | 1     | 14.84                       | 17.00                         | 2     | 13.81                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 17.00                         | 1     | 14.84                       | 17.00                         | 2     | 13.79                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 17.00                         | 1     | 14.80                       | 17.00                         | 2     | 13.75                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 17.00                         | 1     | 14.83                       | 17.00                         | 2     | 13.84                       |

**B.2.2.14 LTE Band 30 FDD Antenna Aux 8**

| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE30 | 10 MHz  | 27710     | 2310       | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.07                       | 16.50                         | 1     | 14.84                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 16.50                         | 0     | 16.11                       | 16.50                         | 1     | 14.94                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 16.50                         | 0     | 16.04                       | 16.50                         | 1     | 14.86                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 16.50                         | 1     | 14.90                       | 16.50                         | 2     | 13.87                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 16.50                         | 1     | 14.98                       | 16.50                         | 2     | 13.98                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 16.50                         | 1     | 14.81                       | 16.50                         | 2     | 13.84                       |
|       | 5.0 MHz | 27710     | 2310       | 100% RB         | 50 Pos 0    | 16.50                         | 1     | 14.91                       | 16.50                         | 2     | 13.88                       |
|       |         |           |            | 1RB Low         | 1 Pos 0     | 16.50                         | 0     | 16.07                       | 16.50                         | 1     | 15.29                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 16.50                         | 0     | 16.08                       | 16.50                         | 1     | 15.26                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 16.50                         | 0     | 16.05                       | 16.50                         | 1     | 15.26                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 16.50                         | 1     | 14.98                       | 16.50                         | 2     | 13.87                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 16.50                         | 1     | 14.98                       | 16.50                         | 2     | 13.90                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 16.50                         | 1     | 14.93                       | 16.50                         | 2     | 13.86                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 16.50                         | 1     | 14.92                       | 16.50                         | 2     | 13.92                       |

**B.2.2.15 LTE Band 41 TDD Antenna Main 5**

| Band  | BW     | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|--------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |        |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE41 | 20 MHz | 39750     | 2506       | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 15.15                       | 16.00                         | 1     | 14.27                       |
|       |        |           |            | 1RB Mid         | 1 Pos 50    | 16.00                         | 0     | 14.72                       | 16.00                         | 1     | 13.90                       |
|       |        |           |            | 1RB High        | 1 Pos 99    | 16.00                         | 0     | 14.03                       | 16.00                         | 1     | 13.22                       |
|       |        |           |            | 50% RB Low      | 50 Pos 0    | 16.00                         | 1     | 13.85                       | 16.00                         | 2     | 12.85                       |
|       |        |           |            | 50% RB Mid      | 50 Pos 24   | 16.00                         | 1     | 13.70                       | 16.00                         | 2     | 12.70                       |
|       |        |           |            | 50% RB High     | 50 Pos 50   | 16.00                         | 1     | 13.43                       | 16.00                         | 2     | 12.44                       |
|       |        | 40185     | 2549.5     | 100% RB         | 100 Pos 0   | 16.00                         | 1     | 13.65                       | 16.00                         | 2     | 12.62                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 15.53                       | 16.00                         | 1     | 14.26                       |
|       |        |           |            | 1RB Mid         | 1 Pos 50    | 16.00                         | 0     | 15.62                       | 16.00                         | 1     | 14.26                       |
|       |        |           |            | 1RB High        | 1 Pos 99    | 16.00                         | 0     | 15.64                       | 16.00                         | 1     | 14.30                       |
|       |        |           |            | 50% RB Low      | 50 Pos 0    | 16.00                         | 1     | 14.69                       | 16.00                         | 2     | 13.68                       |
|       |        |           |            | 50% RB Mid      | 50 Pos 24   | 16.00                         | 1     | 14.59                       | 16.00                         | 2     | 13.65                       |
|       |        | 40620     | 2593       | 50% RB High     | 50 Pos 50   | 16.00                         | 1     | 14.55                       | 16.00                         | 2     | 13.56                       |
|       |        |           |            | 100% RB         | 100 Pos 0   | 16.00                         | 1     | 14.63                       | 16.00                         | 2     | 13.62                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 14.00                       | 16.00                         | 1     | 13.00                       |
|       |        |           |            | 1RB Mid         | 1 Pos 50    | 16.00                         | 0     | 14.18                       | 16.00                         | 1     | 13.20                       |
|       |        |           |            | 1RB High        | 1 Pos 99    | 16.00                         | 0     | 14.29                       | 16.00                         | 1     | 13.28                       |
|       |        |           |            | 50% RB Low      | 50 Pos 0    | 16.00                         | 1     | 13.09                       | 16.00                         | 2     | 12.04                       |
|       |        | 41055     | 2636.5     | 50% RB Mid      | 50 Pos 24   | 16.00                         | 1     | 13.22                       | 16.00                         | 2     | 12.12                       |
|       |        |           |            | 50% RB High     | 50 Pos 50   | 16.00                         | 1     | 13.24                       | 16.00                         | 2     | 12.15                       |
|       |        |           |            | 100% RB         | 100 Pos 0   | 16.00                         | 1     | 13.15                       | 16.00                         | 2     | 12.13                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 14.62                       | 16.00                         | 1     | 13.81                       |
|       |        |           |            | 1RB Mid         | 1 Pos 50    | 16.00                         | 0     | 14.82                       | 16.00                         | 1     | 13.97                       |
|       |        |           |            | 1RB High        | 1 Pos 99    | 16.00                         | 0     | 14.66                       | 16.00                         | 1     | 13.79                       |
|       |        | 41490     | 2680       | 50% RB Low      | 50 Pos 0    | 16.00                         | 1     | 13.74                       | 16.00                         | 2     | 12.75                       |
|       |        |           |            | 50% RB Mid      | 50 Pos 24   | 16.00                         | 1     | 13.81                       | 16.00                         | 2     | 12.78                       |
|       |        |           |            | 50% RB High     | 50 Pos 50   | 16.00                         | 1     | 13.76                       | 16.00                         | 2     | 12.78                       |
|       |        |           |            | 100% RB         | 100 Pos 0   | 16.00                         | 1     | 13.71                       | 16.00                         | 2     | 12.71                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 14.19                       | 16.00                         | 1     | 14.96                       |
|       |        |           |            | 1RB Mid         | 1 Pos 50    | 16.00                         | 0     | 14.30                       | 16.00                         | 1     | 15.00                       |
|       |        |           |            | 1RB High        | 1 Pos 99    | 16.00                         | 0     | 14.20                       | 16.00                         | 1     | 14.92                       |
|       |        |           |            | 50% RB Low      | 50 Pos 0    | 16.00                         | 1     | 13.24                       | 16.00                         | 2     | 12.22                       |
|       |        |           |            | 50% RB Mid      | 50 Pos 24   | 16.00                         | 1     | 13.26                       | 16.00                         | 2     | 12.28                       |
|       |        |           |            | 50% RB High     | 50 Pos 50   | 16.00                         | 1     | 13.29                       | 16.00                         | 2     | 12.33                       |
|       |        |           |            | 100% RB         | 100 Pos 0   | 16.00                         | 1     | 13.25                       | 16.00                         | 2     | 12.25                       |

| Band  | BW     | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|--------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |        |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE41 | 15 MHz | 39750     | 2506       | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 15.01                       | 16.00                         | 1     | 14.31                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 16.00                         | 0     | 14.13                       | 16.00                         | 1     | 13.47                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 16.00                         | 0     | 14.68                       | 16.00                         | 1     | 14.02                       |
|       |        |           |            | 50% RB Low      | 38 Pos 0    | 16.00                         | 1     | 13.83                       | 16.00                         | 2     | 12.82                       |
|       |        |           |            | 50% RB Mid      | 38 Pos 19   | 16.00                         | 1     | 13.68                       | 16.00                         | 2     | 12.64                       |
|       |        |           |            | 50% RB High     | 38 Pos 39   | 16.00                         | 1     | 13.46                       | 16.00                         | 2     | 12.42                       |
|       |        | 40185     | 2549.5     | 100% RB         | 75 Pos 0    | 16.00                         | 1     | 13.67                       | 16.00                         | 2     | 12.61                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 15.68                       | 16.00                         | 1     | 14.72                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 16.00                         | 0     | 15.59                       | 16.00                         | 1     | 14.64                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 16.00                         | 0     | 15.62                       | 16.00                         | 1     | 14.63                       |
|       |        |           |            | 50% RB Low      | 38 Pos 0    | 16.00                         | 1     | 14.59                       | 16.00                         | 2     | 13.59                       |
|       |        |           |            | 50% RB Mid      | 38 Pos 19   | 16.00                         | 1     | 14.56                       | 16.00                         | 2     | 13.57                       |
|       |        | 40620     | 2593       | 50% RB High     | 38 Pos 39   | 16.00                         | 1     | 14.56                       | 16.00                         | 2     | 13.57                       |
|       |        |           |            | 100% RB         | 75 Pos 0    | 16.00                         | 1     | 14.60                       | 16.00                         | 2     | 13.57                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 14.00                       | 16.00                         | 1     | 13.09                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 16.00                         | 0     | 14.20                       | 16.00                         | 1     | 13.26                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 16.00                         | 0     | 14.16                       | 16.00                         | 1     | 13.22                       |
|       |        |           |            | 50% RB Low      | 38 Pos 0    | 16.00                         | 1     | 13.07                       | 16.00                         | 2     | 12.08                       |
|       |        | 41055     | 2636.5     | 50% RB Mid      | 38 Pos 19   | 16.00                         | 1     | 13.17                       | 16.00                         | 2     | 12.15                       |
|       |        |           |            | 50% RB High     | 38 Pos 39   | 16.00                         | 1     | 13.20                       | 16.00                         | 2     | 12.19                       |
|       |        |           |            | 100% RB         | 75 Pos 0    | 16.00                         | 1     | 13.18                       | 16.00                         | 2     | 12.14                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 14.69                       | 16.00                         | 1     | 14.02                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 16.00                         | 0     | 14.73                       | 16.00                         | 1     | 14.05                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 16.00                         | 0     | 14.77                       | 16.00                         | 1     | 14.13                       |
|       |        | 41490     | 2680.0     | 50% RB Low      | 38 Pos 0    | 16.00                         | 1     | 13.70                       | 16.00                         | 2     | 12.76                       |
|       |        |           |            | 50% RB Mid      | 38 Pos 19   | 16.00                         | 1     | 13.74                       | 16.00                         | 2     | 12.72                       |
|       |        |           |            | 50% RB High     | 38 Pos 39   | 16.00                         | 1     | 13.76                       | 16.00                         | 2     | 12.69                       |
|       |        |           |            | 100% RB         | 75 Pos 0    | 16.00                         | 1     | 13.76                       | 16.00                         | 2     | 12.71                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 14.31                       | 16.00                         | 1     | 13.35                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 16.00                         | 0     | 14.26                       | 16.00                         | 1     | 13.29                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 16.00                         | 0     | 14.27                       | 16.00                         | 1     | 13.30                       |
|       |        |           |            | 50% RB Low      | 38 Pos 0    | 16.00                         | 1     | 13.26                       | 16.00                         | 2     | 12.23                       |
|       |        |           |            | 50% RB Mid      | 38 Pos 19   | 16.00                         | 1     | 13.28                       | 16.00                         | 2     | 12.23                       |
|       |        |           |            | 50% RB High     | 38 Pos 39   | 16.00                         | 1     | 13.29                       | 16.00                         | 2     | 12.22                       |
|       |        |           |            | 100% RB         | 75 Pos 0    | 16.00                         | 1     | 13.32                       | 16.00                         | 2     | 12.29                       |

| Band  | BW     | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|--------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |        |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE41 | 10 MHz | 39750     | 2506       | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 14.85                       | 16.00                         | 1     | 14.21                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 16.00                         | 0     | 14.71                       | 16.00                         | 1     | 14.01                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 16.00                         | 0     | 14.34                       | 16.00                         | 1     | 13.67                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 16.00                         | 1     | 13.72                       | 16.00                         | 2     | 12.80                       |
|       |        |           |            | 50% RB Mid      | 25 Pos 12   | 16.00                         | 1     | 13.67                       | 16.00                         | 2     | 12.74                       |
|       |        |           |            | 50% RB High     | 25 Pos 24   | 16.00                         | 1     | 13.52                       | 16.00                         | 2     | 12.60                       |
|       |        | 40185     | 2549.5     | 100% RB         | 50 Pos 0    | 16.00                         | 1     | 13.71                       | 16.00                         | 2     | 12.69                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 15.59                       | 16.00                         | 1     | 14.56                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 16.00                         | 0     | 15.56                       | 16.00                         | 1     | 14.48                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 16.00                         | 0     | 15.57                       | 16.00                         | 1     | 14.56                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 16.00                         | 1     | 14.63                       | 16.00                         | 2     | 13.57                       |
|       |        |           |            | 50% RB Mid      | 25 Pos 12   | 16.00                         | 1     | 14.55                       | 16.00                         | 2     | 13.57                       |
|       |        | 40620     | 2593       | 50% RB High     | 25 Pos 24   | 16.00                         | 1     | 14.56                       | 16.00                         | 2     | 13.54                       |
|       |        |           |            | 100% RB         | 50 Pos 0    | 16.00                         | 1     | 14.60                       | 16.00                         | 2     | 13.55                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 14.08                       | 16.00                         | 1     | 13.13                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 16.00                         | 0     | 14.21                       | 16.00                         | 1     | 13.24                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 16.00                         | 0     | 14.23                       | 16.00                         | 1     | 13.23                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 16.00                         | 1     | 13.11                       | 16.00                         | 2     | 12.16                       |
|       |        | 41055     | 2636.5     | 50% RB Mid      | 25 Pos 12   | 16.00                         | 1     | 13.12                       | 16.00                         | 2     | 12.17                       |
|       |        |           |            | 100% RB         | 50 Pos 0    | 16.00                         | 1     | 13.14                       | 16.00                         | 2     | 12.16                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 1     | 13.14                       | 16.00                         | 2     | 12.13                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 16.00                         | 0     | 14.70                       | 16.00                         | 1     | 14.01                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 16.00                         | 0     | 14.80                       | 16.00                         | 1     | 14.09                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 16.00                         | 0     | 14.76                       | 16.00                         | 1     | 14.09                       |
|       |        | 41490     | 2680       | 50% RB Mid      | 25 Pos 12   | 16.00                         | 1     | 13.71                       | 16.00                         | 2     | 12.82                       |
|       |        |           |            | 100% RB         | 50 Pos 0    | 16.00                         | 1     | 13.72                       | 16.00                         | 2     | 12.82                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 1     | 13.72                       | 16.00                         | 2     | 12.79                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 16.00                         | 1     | 13.76                       | 16.00                         | 2     | 12.72                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 16.00                         | 0     | 14.28                       | 16.00                         | 1     | 13.15                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 16.00                         | 0     | 14.27                       | 16.00                         | 1     | 13.18                       |
|       |        |           |            | 50% RB Mid      | 25 Pos 12   | 16.00                         | 0     | 14.33                       | 16.00                         | 1     | 13.24                       |
|       |        |           |            | 100% RB         | 50 Pos 0    | 16.00                         | 1     | 13.22                       | 16.00                         | 2     | 12.23                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 1     | 13.25                       | 16.00                         | 2     | 12.22                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 16.00                         | 1     | 13.30                       | 16.00                         | 2     | 12.25                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 16.00                         | 1     | 13.31                       | 16.00                         | 2     | 12.28                       |



| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE41 | 5.0 MHz | 39750     | 2506       | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 14.86                       | 16.00                         | 1     | 14.02                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 16.00                         | 0     | 14.74                       | 16.00                         | 1     | 13.87                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 16.00                         | 0     | 14.60                       | 16.00                         | 1     | 13.75                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 16.00                         | 1     | 13.68                       | 16.00                         | 2     | 12.63                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 16.00                         | 1     | 13.65                       | 16.00                         | 2     | 12.58                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 16.00                         | 1     | 13.62                       | 16.00                         | 2     | 12.54                       |
|       |         | 40185     | 2549.5     | 100% RB         | 25 Pos 0    | 16.00                         | 1     | 13.67                       | 16.00                         | 2     | 12.65                       |
|       |         |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 15.62                       | 16.00                         | 1     | 14.81                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 16.00                         | 0     | 15.62                       | 16.00                         | 1     | 14.76                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 16.00                         | 0     | 15.60                       | 16.00                         | 1     | 14.77                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 16.00                         | 1     | 14.58                       | 16.00                         | 2     | 13.58                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 16.00                         | 1     | 14.54                       | 16.00                         | 2     | 13.46                       |
|       |         | 40620     | 2593       | 50% RB High     | 12 Pos 11   | 16.00                         | 1     | 14.51                       | 16.00                         | 2     | 13.48                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 16.00                         | 1     | 14.59                       | 16.00                         | 2     | 13.54                       |
|       |         |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 14.12                       | 16.00                         | 1     | 13.39                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 16.00                         | 0     | 14.12                       | 16.00                         | 1     | 13.43                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 16.00                         | 0     | 14.15                       | 16.00                         | 1     | 13.39                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 16.00                         | 1     | 13.18                       | 16.00                         | 2     | 12.11                       |
|       |         | 41055     | 2636.5     | 50% RB Mid      | 12 Pos 6    | 16.00                         | 1     | 13.18                       | 16.00                         | 2     | 12.13                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 16.00                         | 1     | 13.15                       | 16.00                         | 2     | 12.13                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 16.00                         | 1     | 13.12                       | 16.00                         | 2     | 12.15                       |
|       |         |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 14.79                       | 16.00                         | 1     | 13.93                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 16.00                         | 0     | 14.83                       | 16.00                         | 1     | 13.98                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 16.00                         | 0     | 14.84                       | 16.00                         | 1     | 13.96                       |
|       |         | 41490     | 2680       | 50% RB Low      | 12 Pos 0    | 16.00                         | 1     | 13.74                       | 16.00                         | 2     | 12.74                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 16.00                         | 1     | 13.80                       | 16.00                         | 2     | 12.71                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 16.00                         | 1     | 13.73                       | 16.00                         | 2     | 12.68                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 16.00                         | 1     | 13.71                       | 16.00                         | 2     | 12.69                       |
|       |         |           |            | 1RB Low         | 1 Pos 0     | 16.00                         | 0     | 14.22                       | 16.00                         | 1     | 13.57                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 16.00                         | 0     | 14.21                       | 16.00                         | 1     | 13.63                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 16.00                         | 0     | 14.30                       | 16.00                         | 1     | 13.67                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 16.00                         | 1     | 13.24                       | 16.00                         | 2     | 12.19                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 16.00                         | 1     | 13.24                       | 16.00                         | 2     | 12.18                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 16.00                         | 1     | 13.24                       | 16.00                         | 2     | 12.17                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 16.00                         | 1     | 13.28                       | 16.00                         | 2     | 12.26                       |

**B.2.2.16 LTE Band 41 TDD Antenna Aux 8**

| Band  | BW     | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|--------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |        |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE41 | 20 MHz | 39750     | 2506       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.12                       | 14.00                         | 1     | 12.35                       |
|       |        |           |            | 1RB Mid         | 1 Pos 50    | 14.00                         | 0     | 13.11                       | 14.00                         | 1     | 12.29                       |
|       |        |           |            | 1RB High        | 1 Pos 99    | 14.00                         | 0     | 12.85                       | 14.00                         | 1     | 12.06                       |
|       |        |           |            | 50% RB Low      | 50 Pos 0    | 14.00                         | 1     | 12.15                       | 14.00                         | 2     | 11.15                       |
|       |        |           |            | 50% RB Mid      | 50 Pos 24   | 14.00                         | 1     | 12.10                       | 14.00                         | 2     | 11.11                       |
|       |        |           |            | 50% RB High     | 50 Pos 50   | 14.00                         | 1     | 12.02                       | 14.00                         | 2     | 11.00                       |
|       |        | 40185     | 2549.5     | 100% RB         | 100 Pos 0   | 14.00                         | 1     | 12.08                       | 14.00                         | 2     | 11.06                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 12.91                       | 14.00                         | 1     | 11.56                       |
|       |        |           |            | 1RB Mid         | 1 Pos 50    | 14.00                         | 0     | 12.99                       | 14.00                         | 1     | 11.66                       |
|       |        |           |            | 1RB High        | 1 Pos 99    | 14.00                         | 0     | 12.93                       | 14.00                         | 1     | 11.61                       |
|       |        |           |            | 50% RB Low      | 50 Pos 0    | 14.00                         | 1     | 12.03                       | 14.00                         | 2     | 11.04                       |
|       |        |           |            | 50% RB Mid      | 50 Pos 24   | 14.00                         | 1     | 11.98                       | 14.00                         | 2     | 10.99                       |
|       |        | 40620     | 2593       | 50% RB High     | 50 Pos 50   | 14.00                         | 1     | 11.89                       | 14.00                         | 2     | 10.97                       |
|       |        |           |            | 100% RB         | 100 Pos 0   | 14.00                         | 1     | 12.02                       | 14.00                         | 2     | 10.97                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.21                       | 14.00                         | 1     | 12.21                       |
|       |        |           |            | 1RB Mid         | 1 Pos 50    | 14.00                         | 0     | 13.31                       | 14.00                         | 1     | 12.31                       |
|       |        |           |            | 1RB High        | 1 Pos 99    | 14.00                         | 0     | 13.18                       | 14.00                         | 1     | 12.15                       |
|       |        |           |            | 50% RB Low      | 50 Pos 0    | 14.00                         | 1     | 12.30                       | 14.00                         | 2     | 11.25                       |
|       |        | 41055     | 2636.5     | 50% RB Mid      | 50 Pos 24   | 14.00                         | 1     | 12.29                       | 14.00                         | 2     | 11.24                       |
|       |        |           |            | 50% RB High     | 50 Pos 50   | 14.00                         | 1     | 12.25                       | 14.00                         | 2     | 11.19                       |
|       |        |           |            | 100% RB         | 100 Pos 0   | 14.00                         | 1     | 12.27                       | 14.00                         | 2     | 11.22                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.13                       | 14.00                         | 1     | 12.33                       |
|       |        |           |            | 1RB Mid         | 1 Pos 50    | 14.00                         | 0     | 13.11                       | 14.00                         | 1     | 12.31                       |
|       |        |           |            | 1RB High        | 1 Pos 99    | 14.00                         | 0     | 12.86                       | 14.00                         | 1     | 11.98                       |
|       |        | 41490     | 2680       | 50% RB Low      | 50 Pos 0    | 14.00                         | 1     | 12.14                       | 14.00                         | 2     | 11.13                       |
|       |        |           |            | 50% RB Mid      | 50 Pos 24   | 14.00                         | 1     | 12.10                       | 14.00                         | 2     | 11.07                       |
|       |        |           |            | 50% RB High     | 50 Pos 50   | 14.00                         | 1     | 12.02                       | 14.00                         | 2     | 11.01                       |
|       |        |           |            | 100% RB         | 100 Pos 0   | 14.00                         | 1     | 12.08                       | 14.00                         | 2     | 11.03                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 12.83                       | 14.00                         | 1     | 11.52                       |
|       |        |           |            | 1RB Mid         | 1 Pos 50    | 14.00                         | 0     | 13.00                       | 14.00                         | 1     | 11.65                       |
|       |        |           |            | 1RB High        | 1 Pos 99    | 14.00                         | 0     | 12.95                       | 14.00                         | 1     | 11.66                       |
|       |        |           |            | 50% RB Low      | 50 Pos 0    | 14.00                         | 1     | 12.01                       | 14.00                         | 2     | 10.97                       |
|       |        |           |            | 50% RB Mid      | 50 Pos 24   | 14.00                         | 1     | 12.03                       | 14.00                         | 2     | 11.01                       |
|       |        |           |            | 50% RB High     | 50 Pos 50   | 14.00                         | 1     | 12.00                       | 14.00                         | 2     | 11.02                       |
|       |        |           |            | 100% RB         | 100 Pos 0   | 14.00                         | 1     | 11.99                       | 14.00                         | 2     | 10.98                       |

| Band  | BW     | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|--------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |        |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE41 | 15 MHz | 39750     | 2506       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.10                       | 14.00                         | 1     | 12.46                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 14.00                         | 0     | 13.08                       | 14.00                         | 1     | 12.36                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 14.00                         | 0     | 12.88                       | 14.00                         | 1     | 12.19                       |
|       |        |           |            | 50% RB Low      | 38 Pos 0    | 14.00                         | 1     | 12.13                       | 14.00                         | 2     | 11.12                       |
|       |        |           |            | 50% RB Mid      | 38 Pos 19   | 14.00                         | 1     | 12.08                       | 14.00                         | 2     | 11.09                       |
|       |        |           |            | 50% RB High     | 38 Pos 39   | 14.00                         | 1     | 12.03                       | 14.00                         | 2     | 11.00                       |
|       |        | 40185     | 2549.5     | 100% RB         | 75 Pos 0    | 14.00                         | 1     | 12.08                       | 14.00                         | 2     | 11.04                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 12.97                       | 14.00                         | 1     | 12.03                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 14.00                         | 0     | 12.94                       | 14.00                         | 1     | 12.00                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 14.00                         | 0     | 12.91                       | 14.00                         | 1     | 11.95                       |
|       |        |           |            | 50% RB Low      | 38 Pos 0    | 14.00                         | 1     | 11.93                       | 14.00                         | 2     | 10.97                       |
|       |        |           |            | 50% RB Mid      | 38 Pos 19   | 14.00                         | 1     | 11.96                       | 14.00                         | 2     | 10.89                       |
|       |        | 40620     | 2593       | 50% RB High     | 38 Pos 39   | 14.00                         | 1     | 11.93                       | 14.00                         | 2     | 10.90                       |
|       |        |           |            | 100% RB         | 75 Pos 0    | 14.00                         | 1     | 11.98                       | 14.00                         | 2     | 10.95                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.22                       | 14.00                         | 1     | 12.29                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 14.00                         | 0     | 13.24                       | 14.00                         | 1     | 12.29                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 14.00                         | 0     | 13.17                       | 14.00                         | 1     | 12.22                       |
|       |        |           |            | 50% RB Low      | 38 Pos 0    | 14.00                         | 1     | 12.26                       | 14.00                         | 2     | 11.22                       |
|       |        | 41055     | 2636.5     | 50% RB Mid      | 38 Pos 19   | 14.00                         | 1     | 12.20                       | 14.00                         | 2     | 11.27                       |
|       |        |           |            | 50% RB High     | 38 Pos 39   | 14.00                         | 1     | 12.21                       | 14.00                         | 2     | 11.18                       |
|       |        |           |            | 100% RB         | 75 Pos 0    | 14.00                         | 1     | 12.24                       | 14.00                         | 2     | 11.26                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.10                       | 14.00                         | 1     | 12.46                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 14.00                         | 0     | 13.07                       | 14.00                         | 1     | 12.40                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 14.00                         | 0     | 12.85                       | 14.00                         | 1     | 12.22                       |
|       |        | 41490     | 2680.0     | 50% RB Low      | 38 Pos 0    | 14.00                         | 1     | 12.12                       | 14.00                         | 2     | 11.11                       |
|       |        |           |            | 50% RB Mid      | 38 Pos 19   | 14.00                         | 1     | 12.02                       | 14.00                         | 2     | 10.99                       |
|       |        |           |            | 50% RB High     | 38 Pos 39   | 14.00                         | 1     | 11.92                       | 14.00                         | 2     | 10.99                       |
|       |        |           |            | 100% RB         | 75 Pos 0    | 14.00                         | 1     | 12.03                       | 14.00                         | 2     | 11.04                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 12.95                       | 14.00                         | 1     | 11.99                       |
|       |        |           |            | 1RB Mid         | 1 Pos 38    | 14.00                         | 0     | 12.94                       | 14.00                         | 1     | 12.04                       |
|       |        |           |            | 1RB High        | 1 Pos 74    | 14.00                         | 0     | 12.96                       | 14.00                         | 1     | 12.02                       |
|       |        |           |            | 50% RB Low      | 38 Pos 0    | 14.00                         | 1     | 11.90                       | 14.00                         | 2     | 10.87                       |
|       |        |           |            | 50% RB Mid      | 38 Pos 19   | 14.00                         | 1     | 11.96                       | 14.00                         | 2     | 10.93                       |
|       |        |           |            | 50% RB High     | 38 Pos 39   | 14.00                         | 1     | 11.97                       | 14.00                         | 2     | 10.90                       |
|       |        |           |            | 100% RB         | 75 Pos 0    | 14.00                         | 1     | 11.99                       | 14.00                         | 2     | 10.97                       |

| Band  | BW     | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|--------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |        |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE41 | 10 MHz | 39750     | 2506       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.07                       | 14.00                         | 1     | 12.39                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 0     | 13.08                       | 14.00                         | 1     | 12.42                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 14.00                         | 0     | 12.95                       | 14.00                         | 1     | 12.26                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 14.00                         | 1     | 12.08                       | 14.00                         | 2     | 11.20                       |
|       |        |           |            | 50% RB Mid      | 25 Pos 12   | 14.00                         | 1     | 12.06                       | 14.00                         | 2     | 11.11                       |
|       |        |           |            | 50% RB High     | 25 Pos 24   | 14.00                         | 1     | 12.00                       | 14.00                         | 2     | 11.05                       |
|       |        | 40185     | 2549.5     | 100% RB         | 50 Pos 0    | 14.00                         | 1     | 12.09                       | 14.00                         | 2     | 11.06                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 12.98                       | 14.00                         | 1     | 11.88                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 0     | 12.98                       | 14.00                         | 1     | 11.87                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 14.00                         | 0     | 12.95                       | 14.00                         | 1     | 11.82                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 14.00                         | 1     | 11.92                       | 14.00                         | 2     | 10.96                       |
|       |        |           |            | 50% RB Mid      | 25 Pos 12   | 14.00                         | 1     | 11.89                       | 14.00                         | 2     | 10.90                       |
|       |        | 40620     | 2593       | 50% RB High     | 25 Pos 24   | 14.00                         | 1     | 11.87                       | 14.00                         | 2     | 10.87                       |
|       |        |           |            | 100% RB         | 50 Pos 0    | 14.00                         | 1     | 11.93                       | 14.00                         | 2     | 10.91                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.29                       | 14.00                         | 1     | 12.30                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 0     | 13.28                       | 14.00                         | 1     | 12.33                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 14.00                         | 0     | 13.20                       | 14.00                         | 1     | 12.24                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 14.00                         | 1     | 12.21                       | 14.00                         | 2     | 11.30                       |
|       |        | 41055     | 2636.5     | 50% RB Mid      | 25 Pos 12   | 14.00                         | 1     | 12.22                       | 14.00                         | 2     | 11.26                       |
|       |        |           |            | 100% RB         | 50 Pos 0    | 14.00                         | 1     | 12.17                       | 14.00                         | 2     | 11.19                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 1     | 12.23                       | 14.00                         | 2     | 11.22                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 0     | 13.08                       | 14.00                         | 1     | 12.44                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 14.00                         | 0     | 13.10                       | 14.00                         | 1     | 12.42                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 14.00                         | 0     | 12.94                       | 14.00                         | 1     | 12.23                       |
|       |        | 41490     | 2680       | 50% RB Mid      | 25 Pos 12   | 14.00                         | 1     | 12.03                       | 14.00                         | 2     | 11.17                       |
|       |        |           |            | 100% RB         | 50 Pos 0    | 14.00                         | 1     | 12.03                       | 14.00                         | 2     | 11.08                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 1     | 11.98                       | 14.00                         | 2     | 11.07                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 1     | 12.04                       | 14.00                         | 2     | 11.01                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 14.00                         | 0     | 12.91                       | 14.00                         | 1     | 11.83                       |
|       |        |           |            | 50% RB Low      | 25 Pos 0    | 14.00                         | 0     | 12.95                       | 14.00                         | 1     | 11.82                       |
|       |        |           |            | 50% RB Mid      | 25 Pos 12   | 14.00                         | 0     | 13.07                       | 14.00                         | 1     | 11.92                       |
|       |        |           |            | 100% RB         | 50 Pos 0    | 14.00                         | 1     | 11.95                       | 14.00                         | 2     | 10.91                       |
|       |        |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 1     | 11.91                       | 14.00                         | 2     | 10.90                       |
|       |        |           |            | 1RB Mid         | 1 Pos 24    | 14.00                         | 1     | 11.92                       | 14.00                         | 2     | 10.95                       |
|       |        |           |            | 1RB High        | 1 Pos 49    | 14.00                         | 1     | 11.98                       | 14.00                         | 2     | 10.94                       |

| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE41 | 5.0 MHz | 39750     | 2506       | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.09                       | 14.00                         | 1     | 12.30                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 0     | 13.08                       | 14.00                         | 1     | 12.23                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 14.00                         | 0     | 13.01                       | 14.00                         | 1     | 12.17                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 1     | 12.07                       | 14.00                         | 2     | 10.97                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 1     | 12.04                       | 14.00                         | 2     | 10.99                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 14.00                         | 1     | 12.02                       | 14.00                         | 2     | 10.93                       |
|       |         | 40185     | 2549.5     | 100% RB         | 25 Pos 0    | 14.00                         | 1     | 12.00                       | 14.00                         | 2     | 11.01                       |
|       |         |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 12.94                       | 14.00                         | 1     | 12.29                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 0     | 12.99                       | 14.00                         | 1     | 12.29                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 14.00                         | 0     | 12.92                       | 14.00                         | 1     | 12.25                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 1     | 11.98                       | 14.00                         | 2     | 10.90                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 1     | 11.90                       | 14.00                         | 2     | 10.87                       |
|       |         | 40620     | 2593       | 50% RB High     | 12 Pos 11   | 14.00                         | 1     | 11.84                       | 14.00                         | 2     | 10.81                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 14.00                         | 1     | 11.92                       | 14.00                         | 2     | 10.91                       |
|       |         |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.24                       | 14.00                         | 1     | 12.51                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 0     | 13.18                       | 14.00                         | 1     | 12.50                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 14.00                         | 0     | 13.17                       | 14.00                         | 1     | 12.44                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 1     | 12.25                       | 14.00                         | 2     | 11.25                       |
|       |         | 41055     | 2636.5     | 50% RB Mid      | 12 Pos 6    | 14.00                         | 1     | 12.17                       | 14.00                         | 2     | 11.20                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 14.00                         | 1     | 12.19                       | 14.00                         | 2     | 11.21                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 14.00                         | 1     | 12.23                       | 14.00                         | 2     | 11.22                       |
|       |         |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 13.13                       | 14.00                         | 1     | 12.33                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 0     | 13.10                       | 14.00                         | 1     | 12.29                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 14.00                         | 0     | 13.03                       | 14.00                         | 1     | 12.21                       |
|       |         | 41490     | 2680       | 50% RB Low      | 12 Pos 0    | 14.00                         | 1     | 12.09                       | 14.00                         | 2     | 10.97                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 1     | 12.06                       | 14.00                         | 2     | 11.01                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 14.00                         | 1     | 12.02                       | 14.00                         | 2     | 10.91                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 14.00                         | 1     | 11.99                       | 14.00                         | 2     | 11.01                       |
|       |         |           |            | 1RB Low         | 1 Pos 0     | 14.00                         | 0     | 12.94                       | 14.00                         | 1     | 12.31                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 14.00                         | 0     | 12.94                       | 14.00                         | 1     | 12.32                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 14.00                         | 0     | 12.98                       | 14.00                         | 1     | 12.33                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 14.00                         | 1     | 11.96                       | 14.00                         | 2     | 10.85                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 14.00                         | 1     | 11.92                       | 14.00                         | 2     | 10.84                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 14.00                         | 1     | 11.94                       | 14.00                         | 2     | 10.85                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 14.00                         | 1     | 11.92                       | 14.00                         | 2     | 10.96                       |

## B.2.2.17 LTE Band 48 FDD Antenna Aux 8

| Band   | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|--------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|        |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 48 | 20 MHz  | 55340     | 3560       | 1RB Low         | 1 Pos 0     | 15.00                         | 0     | 14.75                       | 15.00                         | 1     | 13.68                       |
|        |         |           |            | 1RB Mid         | 1 Pos 50    | 15.00                         | 0     | 14.92                       | 15.00                         | 1     | 13.85                       |
|        |         |           |            | 1RB High        | 1 Pos 99    | 15.00                         | 0     | 14.82                       | 15.00                         | 1     | 13.75                       |
|        |         |           |            | 50% RB Low      | 50 Pos 0    | 15.00                         | 1     | 13.71                       | 15.00                         | 2     | 12.77                       |
|        |         |           |            | 50% RB Mid      | 50 Pos 24   | 15.00                         | 1     | 13.78                       | 15.00                         | 2     | 12.84                       |
|        |         |           |            | 50% RB High     | 50 Pos 50   | 15.00                         | 1     | 13.76                       | 15.00                         | 2     | 12.80                       |
|        |         |           |            | 100% RB         | 100 Pos 0   | 15.00                         | 1     | 13.76                       | 15.00                         | 2     | 12.80                       |
|        |         | 55990     | 3625       | 1RB Low         | 1 Pos 0     | 15.00                         | 0     | 14.77                       | 15.00                         | 1     | 13.78                       |
|        |         |           |            | 1RB Mid         | 1 Pos 50    | 15.00                         | 0     | 14.91                       | 15.00                         | 1     | 13.90                       |
|        |         |           |            | 1RB High        | 1 Pos 99    | 15.00                         | 0     | 14.76                       | 15.00                         | 1     | 13.73                       |
|        |         |           |            | 50% RB Low      | 50 Pos 0    | 15.00                         | 1     | 13.89                       | 15.00                         | 2     | 12.88                       |
|        |         |           |            | 50% RB Mid      | 50 Pos 24   | 15.00                         | 1     | 13.96                       | 15.00                         | 2     | 12.92                       |
|        |         |           |            | 50% RB High     | 50 Pos 50   | 15.00                         | 1     | 13.90                       | 15.00                         | 2     | 12.91                       |
|        |         |           |            | 100% RB         | 100 Pos 0   | 15.00                         | 1     | 12.86                       | 15.00                         | 2     | 12.85                       |
|        |         | 56640     | 3690       | 1RB Low         | 1 Pos 0     | 15.00                         | 0     | 14.39                       | 15.00                         | 1     | 13.57                       |
|        |         |           |            | 1RB Mid         | 1 Pos 50    | 15.00                         | 0     | 14.44                       | 15.00                         | 1     | 13.60                       |
|        |         |           |            | 1RB High        | 1 Pos 99    | 15.00                         | 0     | 14.19                       | 15.00                         | 1     | 13.37                       |
|        |         |           |            | 50% RB Low      | 50 Pos 0    | 15.00                         | 1     | 13.45                       | 15.00                         | 2     | 12.46                       |
|        |         |           |            | 50% RB Mid      | 50 Pos 24   | 15.00                         | 1     | 13.42                       | 15.00                         | 2     | 12.43                       |
|        |         |           |            | 50% RB High     | 50 Pos 50   | 15.00                         | 1     | 13.36                       | 15.00                         | 2     | 12.32                       |
|        | 100% RB |           |            | 100 Pos 0       | 15.00       | 1                             | 13.40 | 15.00                       | 2                             | 12.30 |                             |
|        | 15 MHz  | 55315     | 3557.5     | 1RB Low         | 1 Pos 0     | 15.00                         | 0     | 14.50                       | 15.00                         | 1     | 13.88                       |
|        |         |           |            | 1RB Mid         | 1 Pos 38    | 15.00                         | 0     | 14.67                       | 15.00                         | 1     | 13.98                       |
|        |         |           |            | 1RB High        | 1 Pos 74    | 15.00                         | 0     | 14.61                       | 15.00                         | 1     | 13.95                       |
|        |         |           |            | 50% RB Low      | 38 Pos 0    | 15.00                         | 1     | 13.68                       | 15.00                         | 2     | 12.75                       |
|        |         |           |            | 50% RB Mid      | 38 Pos 19   | 15.00                         | 1     | 13.73                       | 15.00                         | 2     | 12.75                       |
|        |         |           |            | 50% RB High     | 38 Pos 39   | 15.00                         | 1     | 13.78                       | 15.00                         | 2     | 12.74                       |
|        |         |           |            | 100% RB         | 75 Pos 0    | 15.00                         | 1     | 13.73                       | 15.00                         | 2     | 12.68                       |
|        |         | 55990     | 3625       | 1RB Low         | 1 Pos 0     | 15.00                         | 0     | 14.77                       | 15.00                         | 1     | 13.02                       |
|        |         |           |            | 1RB Mid         | 1 Pos 38    | 15.00                         | 0     | 14.88                       | 15.00                         | 1     | 13.18                       |
|        |         |           |            | 1RB High        | 1 Pos 74    | 15.00                         | 0     | 14.80                       | 15.00                         | 1     | 13.12                       |
|        |         |           |            | 50% RB Low      | 38 Pos 0    | 15.00                         | 1     | 13.80                       | 15.00                         | 2     | 12.92                       |
|        |         |           |            | 50% RB Mid      | 38 Pos 19   | 15.00                         | 1     | 13.87                       | 15.00                         | 2     | 12.92                       |
|        |         |           |            | 50% RB High     | 38 Pos 39   | 15.00                         | 1     | 13.86                       | 15.00                         | 2     | 12.93                       |
|        |         |           |            | 100% RB         | 75 Pos 0    | 15.00                         | 1     | 13.83                       | 15.00                         | 2     | 12.84                       |
|        |         | 56665     | 3692.5     | 1RB Low         | 1 Pos 0     | 15.00                         | 0     | 14.35                       | 15.00                         | 1     | 13.65                       |
|        |         |           |            | 1RB Mid         | 1 Pos 38    | 15.00                         | 0     | 14.43                       | 15.00                         | 1     | 13.68                       |
|        |         |           |            | 1RB High        | 1 Pos 74    | 15.00                         | 0     | 14.27                       | 15.00                         | 1     | 13.54                       |
|        |         |           |            | 50% RB Low      | 38 Pos 0    | 15.00                         | 1     | 13.41                       | 15.00                         | 2     | 12.35                       |
|        |         |           |            | 50% RB Mid      | 38 Pos 19   | 15.00                         | 1     | 13.35                       | 15.00                         | 2     | 12.36                       |
|        |         |           |            | 50% RB High     | 38 Pos 39   | 15.00                         | 1     | 13.34                       | 15.00                         | 2     | 12.27                       |
|        | 100% RB |           |            | 75 Pos 0        | 15.00       | 1                             | 13.37 | 15.00                       | 2                             | 12.37 |                             |
|        | 10 MHz  | 55290     | 3555       | 1RB Low         | 1 Pos 0     | 15.00                         | 0     | 14.76                       | 15.00                         | 1     | 13.95                       |
|        |         |           |            | 1RB Mid         | 1 Pos 24    | 15.00                         | 0     | 14.77                       | 15.00                         | 1     | 13.98                       |
|        |         |           |            | 1RB High        | 1 Pos 49    | 15.00                         | 0     | 14.78                       | 15.00                         | 1     | 14.00                       |
|        |         |           |            | 50% RB Low      | 25 Pos 0    | 15.00                         | 1     | 13.73                       | 15.00                         | 2     | 12.75                       |
|        |         |           |            | 50% RB Mid      | 25 Pos 12   | 15.00                         | 1     | 13.75                       | 15.00                         | 2     | 12.76                       |
|        |         |           |            | 50% RB High     | 25 Pos 25   | 15.00                         | 1     | 13.79                       | 15.00                         | 2     | 12.74                       |
|        |         |           |            | 100% RB         | 50 Pos0     | 15.00                         | 1     | 13.76                       | 15.00                         | 2     | 12.79                       |
|        |         | 55990     | 3625       | 1RB Low         | 1 Pos 0     | 15.00                         | 0     | 14.82                       | 15.00                         | 1     | 13.73                       |
|        |         |           |            | 1RB Mid         | 1 Pos 24    | 15.00                         | 0     | 14.87                       | 15.00                         | 1     | 13.78                       |
|        |         |           |            | 1RB High        | 1 Pos 49    | 15.00                         | 0     | 14.86                       | 15.00                         | 1     | 13.79                       |
|        |         |           |            | 50% RB Low      | 25 Pos 0    | 15.00                         | 1     | 13.91                       | 15.00                         | 2     | 12.89                       |
|        |         |           |            | 50% RB Mid      | 25 Pos 12   | 15.00                         | 1     | 13.88                       | 15.00                         | 2     | 12.88                       |
|        |         |           |            | 50% RB High     | 25 Pos 25   | 15.00                         | 1     | 13.93                       | 15.00                         | 2     | 12.87                       |
|        |         |           |            | 100% RB         | 50 Pos0     | 15.00                         | 1     | 13.92                       | 15.00                         | 2     | 12.90                       |
|        |         | 56690     | 3695       | 1RB Low         | 1 Pos 0     | 15.00                         | 0     | 14.34                       | 15.00                         | 1     | 13.90                       |
|        |         |           |            | 1RB Mid         | 1 Pos 24    | 15.00                         | 0     | 14.36                       | 15.00                         | 1     | 13.94                       |
|        |         |           |            | 1RB High        | 1 Pos 49    | 15.00                         | 0     | 14.28                       | 15.00                         | 1     | 13.83                       |
|        |         |           |            | 50% RB Low      | 25 Pos 0    | 15.00                         | 1     | 13.38                       | 15.00                         | 2     | 12.43                       |
|        |         |           |            | 50% RB Mid      | 25 Pos 12   | 15.00                         | 1     | 13.35                       | 15.00                         | 2     | 12.43                       |
|        |         |           |            | 50% RB High     | 25 Pos 25   | 15.00                         | 1     | 13.35                       | 15.00                         | 2     | 12.41                       |
|        | 100% RB |           |            | 50 Pos0         | 15.00       | 1                             | 13.33 | 15.00                       | 2                             | 12.35 |                             |

| Band   | BW    | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|--------|-------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|        |       |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE 48 | 5 MHz | 55265     | 3552.5     | 1RB Low         | 1 Pos 0     | 15.00                         | 0     | 14.68                       | 15.00                         | 1     | 13.95                       |
|        |       |           |            | 1RB Mid         | 1 Pos 12    | 15.00                         | 0     | 14.69                       | 15.00                         | 1     | 13.94                       |
|        |       |           |            | 1RB High        | 1 Pos 24    | 15.00                         | 0     | 14.70                       | 15.00                         | 1     | 13.96                       |
|        |       |           |            | 50% RB Low      | 12 Pos 0    | 15.00                         | 1     | 13.61                       | 15.00                         | 2     | 12.56                       |
|        |       |           |            | 50% RB Mid      | 12 Pos 6    | 15.00                         | 1     | 13.64                       | 15.00                         | 2     | 12.56                       |
|        |       |           |            | 50% RB High     | 12 Pos 11   | 15.00                         | 1     | 13.64                       | 15.00                         | 2     | 12.57                       |
|        |       |           |            | 100% RB         | 25 Pos 0    | 15.00                         | 1     | 13.65                       | 15.00                         | 2     | 12.65                       |
|        |       | 55990     | 3625       | 1RB Low         | 1 Pos 0     | 15.00                         | 0     | 14.87                       | 15.00                         | 1     | 13.51                       |
|        |       |           |            | 1RB Mid         | 1 Pos 12    | 15.00                         | 0     | 14.83                       | 15.00                         | 1     | 13.52                       |
|        |       |           |            | 1RB High        | 1 Pos 24    | 15.00                         | 0     | 14.81                       | 15.00                         | 1     | 13.49                       |
|        |       |           |            | 50% RB Low      | 12 Pos 0    | 15.00                         | 1     | 13.82                       | 15.00                         | 2     | 12.80                       |
|        |       |           |            | 50% RB Mid      | 12 Pos 6    | 15.00                         | 1     | 13.79                       | 15.00                         | 2     | 12.83                       |
|        |       |           |            | 50% RB High     | 12 Pos 11   | 15.00                         | 1     | 13.81                       | 15.00                         | 2     | 12.83                       |
|        |       |           |            | 100% RB         | 25 Pos 0    | 15.00                         | 1     | 13.83                       | 15.00                         | 2     | 12.77                       |
|        |       | 56715     | 3697.5     | 1RB Low         | 1 Pos 0     | 15.00                         | 0     | 14.39                       | 15.00                         | 1     | 13.94                       |
|        |       |           |            | 1RB Mid         | 1 Pos 12    | 15.00                         | 0     | 14.40                       | 15.00                         | 1     | 13.88                       |
|        |       |           |            | 1RB High        | 1 Pos 24    | 15.00                         | 0     | 14.31                       | 15.00                         | 1     | 13.84                       |
|        |       |           |            | 50% RB Low      | 12 Pos 0    | 15.00                         | 1     | 13.26                       | 15.00                         | 2     | 12.27                       |
|        |       |           |            | 50% RB Mid      | 12 Pos 6    | 15.00                         | 1     | 13.24                       | 15.00                         | 2     | 12.24                       |
|        |       |           |            | 50% RB High     | 12 Pos 11   | 15.00                         | 1     | 13.22                       | 15.00                         | 2     | 12.21                       |
|        |       |           |            | 100% RB         | 25 Pos 0    | 15.00                         | 1     | 13.30                       | 15.00                         | 2     | 12.22                       |

## B.2.2.18 LTE Band 66 FDD Antenna Main 5

| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE66 | 20 MHz  | 132072    | 1720       | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.91                       | 19.00                         | 1     | 17.06                       |
|       |         |           |            | 1RB Mid         | 1 Pos 50    | 19.00                         | 0     | 17.96                       | 19.00                         | 1     | 17.16                       |
|       |         |           |            | 1RB High        | 1 Pos 99    | 19.00                         | 0     | 17.85                       | 19.00                         | 1     | 17.04                       |
|       |         |           |            | 50% RB Low      | 50 Pos 0    | 19.00                         | 1     | 16.90                       | 19.00                         | 2     | 15.88                       |
|       |         |           |            | 50% RB Mid      | 50 Pos 24   | 19.00                         | 1     | 16.93                       | 19.00                         | 2     | 15.94                       |
|       |         |           |            | 50% RB High     | 50 Pos 50   | 19.00                         | 1     | 16.84                       | 19.00                         | 2     | 15.79                       |
|       |         |           |            | 100% RB         | 100 Pos 0   | 19.00                         | 1     | 16.86                       | 19.00                         | 2     | 15.81                       |
|       |         | 132322    | 1745       | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.86                       | 19.00                         | 1     | 16.65                       |
|       |         |           |            | 1RB Mid         | 1 Pos 50    | 19.00                         | 0     | 17.96                       | 19.00                         | 1     | 16.78                       |
|       |         |           |            | 1RB High        | 1 Pos 99    | 19.00                         | 0     | 17.88                       | 19.00                         | 1     | 16.65                       |
|       |         |           |            | 50% RB Low      | 50 Pos 0    | 19.00                         | 1     | 16.97                       | 19.00                         | 2     | 15.98                       |
|       |         |           |            | 50% RB Mid      | 50 Pos 24   | 19.00                         | 1     | 16.96                       | 19.00                         | 2     | 15.95                       |
|       |         |           |            | 50% RB High     | 50 Pos 50   | 19.00                         | 1     | 16.82                       | 19.00                         | 2     | 15.81                       |
|       |         |           |            | 100% RB         | 100 Pos 0   | 19.00                         | 1     | 16.91                       | 19.00                         | 2     | 15.86                       |
|       |         | 132572    | 1770       | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.94                       | 19.00                         | 1     | 16.69                       |
|       |         |           |            | 1RB Mid         | 1 Pos 50    | 19.00                         | 0     | 18.01                       | 19.00                         | 1     | 16.78                       |
|       |         |           |            | 1RB High        | 1 Pos 99    | 19.00                         | 0     | 17.91                       | 19.00                         | 1     | 16.68                       |
|       |         |           |            | 50% RB Low      | 50 Pos 0    | 19.00                         | 1     | 16.87                       | 19.00                         | 2     | 15.84                       |
|       |         |           |            | 50% RB Mid      | 50 Pos 24   | 19.00                         | 1     | 16.95                       | 19.00                         | 2     | 15.87                       |
|       |         |           |            | 50% RB High     | 50 Pos 50   | 19.00                         | 1     | 16.95                       | 19.00                         | 2     | 15.88                       |
|       | 100% RB |           |            | 100 Pos 0       | 19.00       | 1                             | 16.92 | 19.00                       | 2                             | 15.91 |                             |
|       | 15 MHz  | 132047    | 1717.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.92                       | 19.00                         | 1     | 17.20                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 19.00                         | 0     | 17.80                       | 19.00                         | 1     | 17.12                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 19.00                         | 0     | 17.93                       | 19.00                         | 1     | 17.25                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 19.00                         | 1     | 16.90                       | 19.00                         | 2     | 15.85                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 19.00                         | 1     | 16.92                       | 19.00                         | 2     | 15.91                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 19.00                         | 1     | 16.86                       | 19.00                         | 2     | 15.85                       |
|       |         |           |            | 100% RB         | 75 Pos 0    | 19.00                         | 1     | 16.91                       | 19.00                         | 2     | 15.87                       |
|       |         | 132422    | 1755       | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.94                       | 19.00                         | 1     | 16.95                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 19.00                         | 0     | 17.87                       | 19.00                         | 1     | 16.87                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 19.00                         | 0     | 17.96                       | 19.00                         | 1     | 16.99                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 19.00                         | 1     | 16.92                       | 19.00                         | 2     | 15.89                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 19.00                         | 1     | 16.90                       | 19.00                         | 2     | 15.88                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 19.00                         | 1     | 16.85                       | 19.00                         | 2     | 15.81                       |
|       |         |           |            | 100% RB         | 75 Pos 0    | 19.00                         | 1     | 16.93                       | 19.00                         | 2     | 15.87                       |
|       |         | 132597    | 1772.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.89                       | 19.00                         | 1     | 17.06                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 19.00                         | 0     | 17.86                       | 19.00                         | 1     | 17.01                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 19.00                         | 0     | 17.93                       | 19.00                         | 1     | 17.10                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 19.00                         | 1     | 16.88                       | 19.00                         | 2     | 15.88                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 19.00                         | 1     | 16.92                       | 19.00                         | 2     | 15.92                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 19.00                         | 1     | 16.90                       | 19.00                         | 2     | 15.95                       |
|       | 100% RB |           |            | 75 Pos 0        | 19.00       | 1                             | 16.93 | 19.00                       | 2                             | 15.86 |                             |
|       | 10 MHz  | 132022    | 1715       | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.98                       | 19.00                         | 1     | 17.27                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 19.00                         | 0     | 17.93                       | 19.00                         | 1     | 17.21                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 19.00                         | 0     | 17.92                       | 19.00                         | 1     | 17.19                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 19.00                         | 1     | 16.87                       | 19.00                         | 2     | 15.92                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 19.00                         | 1     | 16.89                       | 19.00                         | 2     | 15.98                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 19.00                         | 1     | 16.91                       | 19.00                         | 2     | 15.97                       |
|       |         |           |            | 100% RB         | 50 Pos 0    | 19.00                         | 1     | 16.92                       | 19.00                         | 2     | 15.88                       |
|       |         | 132422    | 1755       | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.95                       | 19.00                         | 1     | 16.79                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 19.00                         | 0     | 18.01                       | 19.00                         | 1     | 16.80                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 19.00                         | 0     | 18.00                       | 19.00                         | 1     | 16.76                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 19.00                         | 1     | 16.95                       | 19.00                         | 2     | 15.94                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 19.00                         | 1     | 16.84                       | 19.00                         | 2     | 15.89                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 19.00                         | 1     | 16.82                       | 19.00                         | 2     | 15.84                       |
|       |         |           |            | 100% RB         | 50 Pos 0    | 19.00                         | 1     | 16.91                       | 19.00                         | 2     | 15.90                       |
|       |         | 132622    | 1775       | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.94                       | 19.00                         | 1     | 17.09                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 19.00                         | 0     | 17.94                       | 19.00                         | 1     | 17.07                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 19.00                         | 0     | 17.94                       | 19.00                         | 1     | 17.08                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 19.00                         | 1     | 16.87                       | 19.00                         | 2     | 15.90                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 19.00                         | 1     | 16.86                       | 19.00                         | 2     | 15.88                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 19.00                         | 1     | 16.90                       | 19.00                         | 2     | 15.89                       |
|       | 100% RB |           |            | 50 Pos 0        | 19.00       | 1                             | 16.92 | 19.00                       | 2                             | 15.86 |                             |



| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE66 | 5.0 MHz | 131997    | 1712.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 18.07                       | 19.00                         | 1     | 17.28                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 19.00                         | 0     | 18.04                       | 19.00                         | 1     | 17.22                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 19.00                         | 0     | 18.04                       | 19.00                         | 1     | 17.22                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 19.00                         | 1     | 16.95                       | 19.00                         | 2     | 15.91                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 19.00                         | 1     | 16.90                       | 19.00                         | 2     | 15.89                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 19.00                         | 1     | 16.91                       | 19.00                         | 2     | 15.85                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 19.00                         | 1     | 16.96                       | 19.00                         | 2     | 15.93                       |
|       |         | 132422    | 1755       | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.92                       | 19.00                         | 1     | 17.17                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 19.00                         | 0     | 17.96                       | 19.00                         | 1     | 17.16                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 19.00                         | 0     | 17.91                       | 19.00                         | 1     | 17.16                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 19.00                         | 1     | 16.95                       | 19.00                         | 2     | 15.92                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 19.00                         | 1     | 16.87                       | 19.00                         | 2     | 15.88                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 19.00                         | 1     | 16.80                       | 19.00                         | 2     | 15.80                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 19.00                         | 1     | 16.90                       | 19.00                         | 2     | 15.90                       |
|       |         | 132647    | 1777.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.96                       | 19.00                         | 1     | 17.14                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 19.00                         | 0     | 17.98                       | 19.00                         | 1     | 17.11                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 19.00                         | 0     | 18.00                       | 19.00                         | 1     | 17.12                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 19.00                         | 1     | 16.92                       | 19.00                         | 2     | 15.81                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 19.00                         | 1     | 16.93                       | 19.00                         | 2     | 15.84                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 19.00                         | 1     | 16.88                       | 19.00                         | 2     | 15.78                       |
|       | 100% RB |           |            | 25 Pos 0        | 19.00       | 1                             | 16.89 | 19.00                       | 2                             | 15.84 |                             |
|       | 3.0 MHz | 131987    | 1711.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.95                       | 19.00                         | 1     | 17.24                       |
|       |         |           |            | 1RB Mid         | 1 Pos 7     | 19.00                         | 0     | 17.94                       | 19.00                         | 1     | 17.29                       |
|       |         |           |            | 1RB High        | 1 Pos 14    | 19.00                         | 0     | 17.88                       | 19.00                         | 1     | 17.21                       |
|       |         |           |            | 50% RB Low      | 8 Pos 0     | 19.00                         | 1     | 16.95                       | 19.00                         | 2     | 15.95                       |
|       |         |           |            | 50% RB Mid      | 8 Pos 4     | 19.00                         | 1     | 16.96                       | 19.00                         | 2     | 15.98                       |
|       |         |           |            | 50% RB High     | 8 Pos 7     | 19.00                         | 1     | 16.92                       | 19.00                         | 2     | 15.91                       |
|       |         |           |            | 100% RB         | 15 Pos 0    | 19.00                         | 1     | 16.94                       | 19.00                         | 2     | 15.86                       |
|       |         | 132422    | 1755       | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.87                       | 19.00                         | 1     | 17.16                       |
|       |         |           |            | 1RB Mid         | 1 Pos 7     | 19.00                         | 0     | 17.91                       | 19.00                         | 1     | 17.22                       |
|       |         |           |            | 1RB High        | 1 Pos 14    | 19.00                         | 0     | 17.83                       | 19.00                         | 1     | 17.15                       |
|       |         |           |            | 50% RB Low      | 8 Pos 0     | 19.00                         | 1     | 16.88                       | 19.00                         | 2     | 15.92                       |
|       |         |           |            | 50% RB Mid      | 8 Pos 4     | 19.00                         | 1     | 16.86                       | 19.00                         | 2     | 15.89                       |
|       |         |           |            | 50% RB High     | 8 Pos 7     | 19.00                         | 1     | 16.83                       | 19.00                         | 2     | 15.84                       |
|       |         |           |            | 100% RB         | 15 Pos 0    | 19.00                         | 1     | 16.87                       | 19.00                         | 2     | 15.79                       |
|       |         | 132657    | 1778.5     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.89                       | 19.00                         | 1     | 17.18                       |
|       |         |           |            | 1RB Mid         | 1 Pos 7     | 19.00                         | 0     | 17.91                       | 19.00                         | 1     | 17.22                       |
|       |         |           |            | 1RB High        | 1 Pos 14    | 19.00                         | 0     | 17.84                       | 19.00                         | 1     | 17.20                       |
|       |         |           |            | 50% RB Low      | 8 Pos 0     | 19.00                         | 1     | 16.89                       | 19.00                         | 2     | 15.93                       |
|       |         |           |            | 50% RB Mid      | 8 Pos 4     | 19.00                         | 1     | 16.91                       | 19.00                         | 2     | 15.91                       |
|       |         |           |            | 50% RB High     | 8 Pos 7     | 19.00                         | 1     | 16.90                       | 19.00                         | 2     | 15.89                       |
|       | 100% RB |           |            | 15 Pos 0        | 19.00       | 1                             | 16.91 | 19.00                       | 2                             | 15.84 |                             |
|       | 1.4 MHz | 131979    | 1710       | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 18.01                       | 19.00                         | 1     | 16.98                       |
|       |         |           |            | 1RB Mid         | 1 Pos 2     | 19.00                         | 0     | 18.09                       | 19.00                         | 1     | 17.07                       |
|       |         |           |            | 1RB High        | 1 Pos 5     | 19.00                         | 0     | 18.05                       | 19.00                         | 1     | 16.97                       |
|       |         |           |            | 50% RB Low      | 3 Pos 0     | 19.00                         | 1     | 17.96                       | 19.00                         | 1     | 17.09                       |
|       |         |           |            | 50% RB Mid      | 3 Pos 1     | 19.00                         | 1     | 17.97                       | 19.00                         | 1     | 17.12                       |
|       |         |           |            | 50% RB High     | 3 Pos 2     | 19.00                         | 1     | 17.98                       | 19.00                         | 1     | 17.16                       |
|       |         |           |            | 100% RB         | 6 Pos 0     | 19.00                         | 1     | 16.95                       | 19.00                         | 2     | 15.94                       |
|       |         | 132422    | 1755       | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.94                       | 19.00                         | 1     | 16.93                       |
|       |         |           |            | 1RB Mid         | 1 Pos 2     | 19.00                         | 0     | 18.04                       | 19.00                         | 1     | 17.00                       |
|       |         |           |            | 1RB High        | 1 Pos 5     | 19.00                         | 0     | 17.95                       | 19.00                         | 1     | 16.92                       |
|       |         |           |            | 50% RB Low      | 3 Pos 0     | 19.00                         | 1     | 17.93                       | 19.00                         | 1     | 17.05                       |
|       |         |           |            | 50% RB Mid      | 3 Pos 1     | 19.00                         | 1     | 17.91                       | 19.00                         | 1     | 17.03                       |
|       |         |           |            | 50% RB High     | 3 Pos 2     | 19.00                         | 1     | 17.88                       | 19.00                         | 1     | 17.03                       |
|       |         |           |            | 100% RB         | 6 Pos 0     | 19.00                         | 1     | 16.87                       | 19.00                         | 2     | 15.87                       |
|       |         | 132665    | 1779.3     | 1RB Low         | 1 Pos 0     | 19.00                         | 0     | 17.99                       | 19.00                         | 1     | 16.93                       |
|       |         |           |            | 1RB Mid         | 1 Pos 2     | 19.00                         | 0     | 18.02                       | 19.00                         | 1     | 17.01                       |
|       |         |           |            | 1RB High        | 1 Pos 5     | 19.00                         | 0     | 17.98                       | 19.00                         | 1     | 16.93                       |
|       |         |           |            | 50% RB Low      | 3 Pos 0     | 19.00                         | 1     | 17.90                       | 19.00                         | 1     | 17.06                       |
|       |         |           |            | 50% RB Mid      | 3 Pos 1     | 19.00                         | 1     | 17.92                       | 19.00                         | 1     | 17.07                       |
|       |         |           |            | 50% RB High     | 3 Pos 2     | 19.00                         | 1     | 17.94                       | 19.00                         | 1     | 17.11                       |
|       | 100% RB |           |            | 6 Pos 0         | 19.00       | 1                             | 16.90 | 19.00                       | 2                             | 15.91 |                             |

## B.2.2.19 LTE Band 66 FDD Antenna Aux 8

| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE66 | 20 MHz  | 132072    | 1720       | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.60                       | 18.50                         | 1     | 16.89                       |
|       |         |           |            | 1RB Mid         | 1 Pos 50    | 18.50                         | 0     | 17.72                       | 18.50                         | 1     | 17.03                       |
|       |         |           |            | 1RB High        | 1 Pos 99    | 18.50                         | 0     | 17.63                       | 18.50                         | 1     | 16.92                       |
|       |         |           |            | 50% RB Low      | 50 Pos 0    | 18.50                         | 1     | 16.65                       | 18.50                         | 2     | 15.61                       |
|       |         |           |            | 50% RB Mid      | 50 Pos 24   | 18.50                         | 1     | 16.66                       | 18.50                         | 2     | 15.61                       |
|       |         |           |            | 50% RB High     | 50 Pos 50   | 18.50                         | 1     | 16.64                       | 18.50                         | 2     | 15.59                       |
|       |         |           |            | 100% RB         | 100 Pos 0   | 18.50                         | 1     | 16.65                       | 18.50                         | 2     | 15.62                       |
|       |         | 132322    | 1745       | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.59                       | 18.50                         | 1     | 17.18                       |
|       |         |           |            | 1RB Mid         | 1 Pos 50    | 18.50                         | 0     | 17.69                       | 18.50                         | 1     | 17.27                       |
|       |         |           |            | 1RB High        | 1 Pos 99    | 18.50                         | 0     | 17.59                       | 18.50                         | 1     | 17.16                       |
|       |         |           |            | 50% RB Low      | 50 Pos 0    | 18.50                         | 1     | 16.75                       | 18.50                         | 2     | 15.76                       |
|       |         |           |            | 50% RB Mid      | 50 Pos 24   | 18.50                         | 1     | 16.74                       | 18.50                         | 2     | 15.68                       |
|       |         |           |            | 50% RB High     | 50 Pos 50   | 18.50                         | 1     | 16.63                       | 18.50                         | 2     | 15.61                       |
|       |         |           |            | 100% RB         | 100 Pos 0   | 18.50                         | 1     | 16.71                       | 18.50                         | 2     | 15.68                       |
|       |         | 132572    | 1770       | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.67                       | 18.50                         | 1     | 16.84                       |
|       |         |           |            | 1RB Mid         | 1 Pos 50    | 18.50                         | 0     | 17.71                       | 18.50                         | 1     | 16.85                       |
|       |         |           |            | 1RB High        | 1 Pos 99    | 18.50                         | 0     | 17.59                       | 18.50                         | 1     | 16.74                       |
|       |         |           |            | 50% RB Low      | 50 Pos 0    | 18.50                         | 1     | 16.55                       | 18.50                         | 2     | 15.53                       |
|       |         |           |            | 50% RB Mid      | 50 Pos 24   | 18.50                         | 1     | 16.67                       | 18.50                         | 2     | 15.63                       |
|       |         |           |            | 50% RB High     | 50 Pos 50   | 18.50                         | 1     | 16.58                       | 18.50                         | 2     | 15.55                       |
|       | 100% RB |           |            | 100 Pos 0       | 18.50       | 1                             | 16.56 | 18.50                       | 2                             | 15.52 |                             |
|       | 15 MHz  | 132047    | 1717.5     | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.59                       | 18.50                         | 1     | 17.19                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 18.50                         | 0     | 17.50                       | 18.50                         | 1     | 17.13                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 18.50                         | 0     | 17.61                       | 18.50                         | 1     | 17.20                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 18.50                         | 1     | 16.65                       | 18.50                         | 2     | 15.62                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 18.50                         | 1     | 16.60                       | 18.50                         | 2     | 15.62                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 18.50                         | 1     | 16.60                       | 18.50                         | 2     | 15.59                       |
|       |         |           |            | 100% RB         | 75 Pos 0    | 18.50                         | 1     | 16.60                       | 18.50                         | 2     | 15.63                       |
|       |         | 132422    | 1755       | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.62                       | 18.50                         | 1     | 17.04                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 18.50                         | 0     | 17.58                       | 18.50                         | 1     | 16.99                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 18.50                         | 0     | 17.69                       | 18.50                         | 1     | 17.09                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 18.50                         | 1     | 16.72                       | 18.50                         | 2     | 15.70                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 18.50                         | 1     | 16.67                       | 18.50                         | 2     | 15.68                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 18.50                         | 1     | 16.64                       | 18.50                         | 2     | 15.60                       |
|       |         |           |            | 100% RB         | 75 Pos 0    | 18.50                         | 1     | 16.71                       | 18.50                         | 2     | 15.66                       |
|       |         | 132597    | 1772.5     | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.62                       | 18.50                         | 1     | 16.77                       |
|       |         |           |            | 1RB Mid         | 1 Pos 38    | 18.50                         | 0     | 17.56                       | 18.50                         | 1     | 16.71                       |
|       |         |           |            | 1RB High        | 1 Pos 74    | 18.50                         | 0     | 17.63                       | 18.50                         | 1     | 16.78                       |
|       |         |           |            | 50% RB Low      | 38 Pos 0    | 18.50                         | 1     | 16.62                       | 18.50                         | 2     | 15.56                       |
|       |         |           |            | 50% RB Mid      | 38 Pos 19   | 18.50                         | 1     | 16.66                       | 18.50                         | 2     | 15.61                       |
|       |         |           |            | 50% RB High     | 38 Pos 39   | 18.50                         | 1     | 16.57                       | 18.50                         | 2     | 15.55                       |
|       | 100% RB |           |            | 75 Pos 0        | 18.50       | 1                             | 16.60 | 18.50                       | 2                             | 15.58 |                             |
|       | 10 MHz  | 132022    | 1715       | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.64                       | 18.50                         | 1     | 17.20                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 18.50                         | 0     | 17.60                       | 18.50                         | 1     | 17.19                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 18.50                         | 0     | 17.60                       | 18.50                         | 1     | 17.20                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 18.50                         | 1     | 16.65                       | 18.50                         | 2     | 15.68                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 18.50                         | 1     | 16.60                       | 18.50                         | 2     | 15.66                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 18.50                         | 1     | 16.59                       | 18.50                         | 2     | 15.63                       |
|       |         |           |            | 100% RB         | 50 Pos 0    | 18.50                         | 1     | 16.61                       | 18.50                         | 2     | 15.61                       |
|       |         | 132422    | 1755       | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.68                       | 18.50                         | 1     | 16.67                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 18.50                         | 0     | 17.72                       | 18.50                         | 1     | 16.72                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 18.50                         | 0     | 17.69                       | 18.50                         | 1     | 16.64                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 18.50                         | 1     | 16.72                       | 18.50                         | 2     | 15.81                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 18.50                         | 1     | 16.62                       | 18.50                         | 2     | 15.72                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 18.50                         | 1     | 16.62                       | 18.50                         | 2     | 15.70                       |
|       |         |           |            | 100% RB         | 50 Pos 0    | 18.50                         | 1     | 16.75                       | 18.50                         | 2     | 15.70                       |
|       |         | 132622    | 1775       | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.66                       | 18.50                         | 1     | 16.77                       |
|       |         |           |            | 1RB Mid         | 1 Pos 24    | 18.50                         | 0     | 17.68                       | 18.50                         | 1     | 16.79                       |
|       |         |           |            | 1RB High        | 1 Pos 49    | 18.50                         | 0     | 17.65                       | 18.50                         | 1     | 16.77                       |
|       |         |           |            | 50% RB Low      | 25 Pos 0    | 18.50                         | 1     | 16.62                       | 18.50                         | 2     | 15.62                       |
|       |         |           |            | 50% RB Mid      | 25 Pos 12   | 18.50                         | 1     | 16.63                       | 18.50                         | 2     | 15.64                       |
|       |         |           |            | 50% RB High     | 25 Pos 24   | 18.50                         | 1     | 16.56                       | 18.50                         | 2     | 15.57                       |
|       | 100% RB |           |            | 50 Pos 0        | 18.50       | 1                             | 16.62 | 18.50                       | 2                             | 15.57 |                             |

| Band  | BW      | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |       |                             | 16 QAM                        |       |                             |
|-------|---------|-----------|------------|-----------------|-------------|-------------------------------|-------|-----------------------------|-------------------------------|-------|-----------------------------|
|       |         |           |            |                 |             | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) | Factory Upper Tolerance (dBm) | M P R | Measured Output Power (dBm) |
| LTE66 | 5.0 MHz | 131997    | 1712.5     | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.79                       | 18.50                         | 1     | 16.57                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 18.50                         | 0     | 17.77                       | 18.50                         | 1     | 16.51                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 18.50                         | 0     | 17.72                       | 18.50                         | 1     | 16.51                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 18.50                         | 1     | 16.62                       | 18.50                         | 2     | 15.63                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 18.50                         | 1     | 16.63                       | 18.50                         | 2     | 15.57                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 18.50                         | 1     | 16.58                       | 18.50                         | 2     | 15.53                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 18.50                         | 1     | 16.61                       | 18.50                         | 2     | 15.64                       |
|       |         | 132422    | 1755       | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.73                       | 18.50                         | 1     | 16.75                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 18.50                         | 0     | 17.70                       | 18.50                         | 1     | 16.74                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 18.50                         | 0     | 17.70                       | 18.50                         | 1     | 16.74                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 18.50                         | 1     | 16.71                       | 18.50                         | 2     | 15.66                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 18.50                         | 1     | 16.61                       | 18.50                         | 2     | 15.58                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 18.50                         | 1     | 16.60                       | 18.50                         | 2     | 15.53                       |
|       |         |           |            | 100% RB         | 25 Pos 0    | 18.50                         | 1     | 16.68                       | 18.50                         | 2     | 15.68                       |
|       |         | 132647    | 1777.5     | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.71                       | 18.50                         | 1     | 16.93                       |
|       |         |           |            | 1RB Mid         | 1 Pos 12    | 18.50                         | 0     | 17.69                       | 18.50                         | 1     | 16.96                       |
|       |         |           |            | 1RB High        | 1 Pos 24    | 18.50                         | 0     | 17.71                       | 18.50                         | 1     | 16.97                       |
|       |         |           |            | 50% RB Low      | 12 Pos 0    | 18.50                         | 1     | 16.67                       | 18.50                         | 2     | 15.65                       |
|       |         |           |            | 50% RB Mid      | 12 Pos 6    | 18.50                         | 1     | 16.61                       | 18.50                         | 2     | 15.63                       |
|       |         |           |            | 50% RB High     | 12 Pos 11   | 18.50                         | 1     | 16.56                       | 18.50                         | 2     | 15.57                       |
|       | 100% RB |           |            | 25 Pos 0        | 18.50       | 1                             | 16.62 | 18.50                       | 2                             | 15.61 |                             |
|       | 3.0 MHz | 131987    | 1711.5     | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.61                       | 18.50                         | 1     | 17.19                       |
|       |         |           |            | 1RB Mid         | 1 Pos 7     | 18.50                         | 0     | 17.60                       | 18.50                         | 1     | 17.21                       |
|       |         |           |            | 1RB High        | 1 Pos 14    | 18.50                         | 0     | 17.53                       | 18.50                         | 1     | 17.15                       |
|       |         |           |            | 50% RB Low      | 8 Pos 0     | 18.50                         | 1     | 16.58                       | 18.50                         | 2     | 15.76                       |
|       |         |           |            | 50% RB Mid      | 8 Pos 4     | 18.50                         | 1     | 16.62                       | 18.50                         | 2     | 15.78                       |
|       |         |           |            | 50% RB High     | 8 Pos 7     | 18.50                         | 1     | 16.53                       | 18.50                         | 2     | 15.71                       |
|       |         |           |            | 100% RB         | 15 Pos 0    | 18.50                         | 1     | 16.56                       | 18.50                         | 2     | 15.64                       |
|       |         | 132422    | 1755       | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.63                       | 18.50                         | 1     | 17.25                       |
|       |         |           |            | 1RB Mid         | 1 Pos 7     | 18.50                         | 0     | 17.62                       | 18.50                         | 1     | 17.27                       |
|       |         |           |            | 1RB High        | 1 Pos 14    | 18.50                         | 0     | 17.61                       | 18.50                         | 1     | 17.22                       |
|       |         |           |            | 50% RB Low      | 8 Pos 0     | 18.50                         | 1     | 16.62                       | 18.50                         | 2     | 15.82                       |
|       |         |           |            | 50% RB Mid      | 8 Pos 4     | 18.50                         | 1     | 16.58                       | 18.50                         | 2     | 15.77                       |
|       |         |           |            | 50% RB High     | 8 Pos 7     | 18.50                         | 1     | 16.61                       | 18.50                         | 2     | 15.76                       |
|       |         |           |            | 100% RB         | 15 Pos 0    | 18.50                         | 1     | 16.62                       | 18.50                         | 2     | 15.67                       |
|       |         | 132657    | 1778.5     | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.65                       | 18.50                         | 1     | 17.23                       |
|       |         |           |            | 1RB Mid         | 1 Pos 7     | 18.50                         | 0     | 17.61                       | 18.50                         | 1     | 17.17                       |
|       |         |           |            | 1RB High        | 1 Pos 14    | 18.50                         | 0     | 17.59                       | 18.50                         | 1     | 17.18                       |
|       |         |           |            | 50% RB Low      | 8 Pos 0     | 18.50                         | 1     | 16.59                       | 18.50                         | 2     | 15.81                       |
|       |         |           |            | 50% RB Mid      | 8 Pos 4     | 18.50                         | 1     | 16.59                       | 18.50                         | 2     | 15.80                       |
|       |         |           |            | 50% RB High     | 8 Pos 7     | 18.50                         | 1     | 16.61                       | 18.50                         | 2     | 15.76                       |
|       | 100% RB |           |            | 15 Pos 0        | 18.50       | 1                             | 16.62 | 18.50                       | 2                             | 15.68 |                             |
|       | 1.4 MHz | 131979    | 1710       | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.64                       | 18.50                         | 1     | 16.63                       |
|       |         |           |            | 1RB Mid         | 1 Pos 2     | 18.50                         | 0     | 17.58                       | 18.50                         | 1     | 16.60                       |
|       |         |           |            | 1RB High        | 1 Pos 5     | 18.50                         | 0     | 17.58                       | 18.50                         | 1     | 16.62                       |
|       |         |           |            | 50% RB Low      | 3 Pos 0     | 18.50                         | 1     | 17.62                       | 18.50                         | 1     | 16.78                       |
|       |         |           |            | 50% RB Mid      | 3 Pos 1     | 18.50                         | 1     | 17.67                       | 18.50                         | 1     | 16.80                       |
|       |         |           |            | 50% RB High     | 3 Pos 2     | 18.50                         | 1     | 17.66                       | 18.50                         | 1     | 16.81                       |
|       |         |           |            | 100% RB         | 6 Pos 0     | 18.50                         | 1     | 16.62                       | 18.50                         | 2     | 15.60                       |
|       |         | 132422    | 1755       | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.68                       | 18.50                         | 1     | 16.63                       |
|       |         |           |            | 1RB Mid         | 1 Pos 2     | 18.50                         | 0     | 17.68                       | 18.50                         | 1     | 16.63                       |
|       |         |           |            | 1RB High        | 1 Pos 5     | 18.50                         | 0     | 17.70                       | 18.50                         | 1     | 16.66                       |
|       |         |           |            | 50% RB Low      | 3 Pos 0     | 18.50                         | 1     | 17.71                       | 18.50                         | 1     | 16.84                       |
|       |         |           |            | 50% RB Mid      | 3 Pos 1     | 18.50                         | 1     | 17.66                       | 18.50                         | 1     | 16.81                       |
|       |         |           |            | 50% RB High     | 3 Pos 2     | 18.50                         | 1     | 17.69                       | 18.50                         | 1     | 16.85                       |
|       |         |           |            | 100% RB         | 6 Pos 0     | 18.50                         | 1     | 16.64                       | 18.50                         | 2     | 15.62                       |
|       |         | 132665    | 1779.3     | 1RB Low         | 1 Pos 0     | 18.50                         | 0     | 17.60                       | 18.50                         | 1     | 16.61                       |
|       |         |           |            | 1RB Mid         | 1 Pos 2     | 18.50                         | 0     | 17.61                       | 18.50                         | 1     | 16.58                       |
|       |         |           |            | 1RB High        | 1 Pos 5     | 18.50                         | 0     | 17.61                       | 18.50                         | 1     | 16.61                       |
|       |         |           |            | 50% RB Low      | 3 Pos 0     | 18.50                         | 1     | 17.66                       | 18.50                         | 1     | 16.77                       |
|       |         |           |            | 50% RB Mid      | 3 Pos 1     | 18.50                         | 1     | 17.68                       | 18.50                         | 1     | 16.81                       |
|       |         |           |            | 50% RB High     | 3 Pos 2     | 18.50                         | 1     | 17.66                       | 18.50                         | 1     | 16.80                       |
|       | 100% RB |           |            | 6 Pos 0         | 18.50       | 1                             | 16.66 | 18.50                       | 2                             | 15.63 |                             |

## B.2.3 LTE UL Carrier Aggregation

### B.2.3.1 Intra-Band Contiguous

UL CA shall be tested based on the worst-case SAR configuration determined from non-CA SAR testing result. The UL CA mode power measurements represent the total power across both carriers.

According to November 2017 TCB workshop, the following needs to be performed: The maximum measured output power, RB allocation, CC offsets, CC channel BWs, MPR, modulation and other relevant information for all UL CA SAR configurations are required in SAR reports to support the test setup and results, including explanations, call box configurations and certain testing restriction

1) When the maximum output for UL CA is  $\leq$  standalone LTE mode

- The primary carrier is configured according to the highest standalone SAR configuration tested
- The secondary carrier and subsequent CCs are configured according to procedures used for power measurement and parameters similar to that used for the PCC

2) When the Reported SAR for UL CA configuration, is  $> 1.2$  W/kg, UL CA SAR is also required for all the other test channels

#### LTE CA 5B:

| Band   | Antenna | Modulation / BW | PCC   |            |               | SCC   |            |               | Pwr Avg (dBm) | Factory Upper Tolerance (dBm) |
|--------|---------|-----------------|-------|------------|---------------|-------|------------|---------------|---------------|-------------------------------|
|        |         |                 | Ch    | Freq (MHz) | RB Allocation | Ch    | Freq (MHz) | RB Allocation |               |                               |
| LTE 5B | Main 5  | QPSK / 10MHz    | 20476 | 831.6      | 1RB High      | 20575 | 841.5      | 1RB Low       | 19.90         | 20.5                          |

#### LTE CA 7C:

| Band   | Antenna | Modulation / BW | PCC   |            |               | SCC   |            |               | Pwr Avg (dBm) | Factory Upper Tolerance (dBm) |
|--------|---------|-----------------|-------|------------|---------------|-------|------------|---------------|---------------|-------------------------------|
|        |         |                 | Ch    | Freq (MHz) | RB Allocation | Ch    | Freq (MHz) | RB Allocation |               |                               |
| LTE 7C | Main 5  | QPSK / 20MHz    | 21001 | 2525.1     | 1RB High      | 21199 | 2544.9     | 1RB Low       | 13.70         | 14.0                          |
|        | Aux 8   |                 | 21001 | 2525.1     | 1RB High      | 21199 | 2544.9     | 1RB Low       | 14.00         | 14.0                          |

#### LTE CA 38C:

| Band    | Antenna | Modulation / BW | PCC   |            |               | SCC   |            |               | Pwr Avg (dBm) | Factory Upper Tolerance (dBm) |
|---------|---------|-----------------|-------|------------|---------------|-------|------------|---------------|---------------|-------------------------------|
|         |         |                 | Ch    | Freq (MHz) | RB Allocation | Ch    | Freq (MHz) | RB Allocation |               |                               |
| LTE 38C | Main 5  | QPSK / 20MHz    | 37901 | 2585.1     | 1RB High      | 38099 | 2604.9     | 1RB Low       | 14.44         | 15.0                          |

#### LTE CA 41C:

| Band    | Antenna | Modulation / BW | PCC   |            |               | SCC   |            |               | Pwr Avg (dBm) | Factory Upper Tolerance (dBm) |
|---------|---------|-----------------|-------|------------|---------------|-------|------------|---------------|---------------|-------------------------------|
|         |         |                 | Ch    | Freq (MHz) | RB Allocation | Ch    | Freq (MHz) | RB Allocation |               |                               |
| LTE 41C | Aux 8   | QPSK / 20MHz    | 40521 | 2583.1     | 1RB High      | 40719 | 2602.9     | 1RB Low       | 13.65         | 14.0                          |

**LTE CA 48C:**

| Band    | Antenna | Modulation / BW | PCC   |            |               | SCC   |            |               | Pwr Avg (dBm) | Factory Upper Tolerance (dBm) |
|---------|---------|-----------------|-------|------------|---------------|-------|------------|---------------|---------------|-------------------------------|
|         |         |                 | Ch    | Freq (MHz) | RB Allocation | Ch    | Freq (MHz) | RB Allocation |               |                               |
| LTE 41C | Aux 8   | QPSK / 20MHz    | 55891 | 3615.1     | 1RB High      | 56089 | 3634.9     | 1RB Low       | 14.72         | 15.0                          |

**LTE CA 66B, 66C:**

| Band    | Antenna | Modulation / BW | PCC    |            |               | SCC    |            |               | Pwr Avg (dBm) | Factory Upper Tolerance (dBm) |
|---------|---------|-----------------|--------|------------|---------------|--------|------------|---------------|---------------|-------------------------------|
|         |         |                 | Ch     | Freq (MHz) | RB Allocation | Ch     | Freq (MHz) | RB Allocation |               |                               |
| LTE 66B | Main 5  | QPSK / 10MHz    | 132373 | 1750.1     | 1RB High      | 132472 | 1760       | 1RB Low       | 18.45         | 19.0                          |
|         | Aux 8   | QPSK / 10MHz    | 132373 | 1750.1     | 1RB High      | 132472 | 1760       | 1RB Low       | 18.30         | 19.0                          |
| LTE 66C | Main 5  | QPSK / 20MHz    | 132323 | 1745.1     | 1RB High      | 132521 | 1764.9     | 1RB Low       | 18.59         | 19.0                          |
|         | Aux 8   | QPSK / 20MHz    | 132323 | 1745.1     | 1RB High      | 132521 | 1764.9     | 1RB Low       | 18.40         | 19.0                          |

**B.2.3.2 Inter-Band Contiguous and ENDC**

For LTE ULCA mode, each carrier transmits on separate antennas. Each exposure has been measured separately. For each, the highest standalone SAR conditions are added to derive the Total SAR. The factory upper tolerance (dBm) related to the worst-case SAR results obtained in standalone mode have been reduced by 3dB for both LTE carrier aggregation inter-band and 5G ENDC.

| Band    | Antenna | BW     | Channel # | Freq (MHz) | % RB Allocation | RB Position | QPSK                          |     |                             |
|---------|---------|--------|-----------|------------|-----------------|-------------|-------------------------------|-----|-----------------------------|
|         |         |        |           |            |                 |             | Factory Upper Tolerance (dBm) | MPR | Measured Output Power (dBm) |
| LTE 5A  | 5       | 10 MHz | 20525     | 836.5      | 1RB Mid         | 1 Pos 24    | 17.50                         | 0   | 16.72                       |
| LTE 7A  | 8       | 20 MHz | 21100     | 2535       | 1RB Mid         | 1 Pos 49    | 11.00                         | 0   | 10.64                       |
| LTE 12A | 5       | 10 MHz | 23095     | 707.5      | 1RB Mid         | 1 Pos 24    | 16.50                         | 0   | 15.54                       |
| LTE 13A | 5       | 10 MHz | 23230     | 782        | 1RB Mid         | 1 Pos 24    | 16.50                         | 0   | 15.73                       |
| LTE 14A | 5       | 10 MHz | 23330     | 793        | 1RB Mid         | 1 Pos 24    | 16.50                         | 0   | 15.70                       |
| LTE 25A | 5       | 20 MHz | 26365     | 1882.5     | 1RB Mid         | 1 Pos 49    | 13.50                         | 0   | 12.48                       |
| LTE 25A | 8       | 20 MHz | 26365     | 1882.5     | 1RB Mid         | 1 Pos 49    | 16.00                         | 0   | 15.14                       |
| LTE 26A | 5       | 15 MHz | 26865     | 831.5      | 1RB Mid         | 1 Pos 38    | 17.00                         | 0   | 16.64                       |
| LTE 30A | 8       | 10 MHz | 27710     | 2310       | 1RB Mid         | 1 Pos 24    | 13.50                         | 0   | 13.04                       |
| LTE 41  | 5       | 20 MHz | 40620     | 2593       | 1RB Mid         | 1 Pos 49    | 13.00                         | 0   | 12.23                       |
| LTE 41  | 8       | 20 MHz | 40620     | 2593       | 1RB Mid         | 1 Pos 49    | 11.00                         | 0   | 10.23                       |
| LTE 48A | 8       | 20 MHz | 55990     | 3625       | 1RB Mid         | 1 Pos 49    | 12.00                         | 0   | 11.45                       |
| LTE 66A | 5       | 20 MHz | 132322    | 1745       | 1RB Mid         | 1 Pos 49    | 16.00                         | 0   | 15.03                       |
| LTE 66A | 8       | 20 MHz | 132322    | 1745       | 1RB Mid         | 1 Pos 49    | 16.00                         | 0   | 15.60                       |

## B.2.4 5G NR (FR1) Tablet Mode

### B.2.4.1 5G NR (FR1) Band 2 FDD Antenna Main 5

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

### B.2.4.2 5G NR (FR1) Band 2 FDD Antenna Aux 8

| Band | BW<br>(MHz) | Modulation    | Mode      | RB Allocation | RB<br>Offset | Factory upper<br>tolerance<br>(dBm) | Measured Output Power (dBm) |        |        |
|------|-------------|---------------|-----------|---------------|--------------|-------------------------------------|-----------------------------|--------|--------|
|      |             |               |           |               |              |                                     | Frequency (MHz) / Channel   |        |        |
|      |             |               |           |               |              |                                     | 1860                        | 1880   | 1900   |
|      |             |               |           |               |              |                                     | 372000                      | 376000 | 396000 |
| NR2  | 20          | DFS-s<br>OFDM | PI/2 BPSK | 1RB Low       | 0            | 18.00                               |                             | 16.82  |        |
|      |             |               | QPSK      | 1RB Low       | 0            | 18.00                               |                             | 16.80  |        |
|      |             |               |           | 1RB Mid       | 50           | 18.00                               | 17.97                       | 17.09  | 18.00  |
|      |             |               |           | 1RB High      | 99           | 18.00                               |                             | 17.22  |        |
|      |             |               |           | 50% RB Low    | 0            | 18.00                               |                             | 16.80  |        |
|      |             |               |           | 50% RB Mid    | 25           | 18.00                               | 18.00                       | 17.09  | 18.00  |
|      |             |               |           | 50% RB High   | 49           | 18.00                               |                             | 17.32  |        |
|      |             |               |           | 100% RB       | 0            | 18.00                               |                             | 17.04  |        |
|      |             |               | 16QAM     | 1RB Low       | 0            | 18.00                               |                             | 17.08  |        |
|      |             |               | 64QAM     | 1RB Low       | 0            | 18.00                               |                             | 16.76  |        |
|      |             |               | 256QAM    | 1RB Low       | 0            | 18.00                               | 16.89                       |        |        |
|      |             | CP-OFDM       | QPSK      | 1RB Low       | 0            | 18.00                               | 16.91                       |        |        |
|      |             |               |           |               |              |                                     | Frequency (MHz) / Channel   |        |        |
|      |             |               |           |               |              |                                     | 1857.5                      | 1880   | 1880   |
|      |             |               |           |               |              |                                     | 371500                      | 376000 | 380500 |
|      | 15          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 18.00                               |                             | 16.90  |        |
|      |             |               |           | 50% RB Low    | 0            | 18.00                               |                             | 16.94  |        |
|      |             |               |           |               |              |                                     | Frequency (MHz) / Channel   |        |        |
|      |             |               |           |               |              |                                     | 1855                        | 1880   | 1905   |
|      |             |               |           |               |              |                                     | 371000                      | 376000 | 381000 |
|      | 10          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 18.00                               |                             | 16.86  |        |
|      |             |               |           | 50% RB Low    | 0            | 18.00                               |                             | 16.79  |        |
|      |             |               |           |               |              |                                     | Frequency (MHz) / Channel   |        |        |
|      |             |               |           |               |              |                                     | 1852.5                      | 1880   | 1907.5 |
|      |             |               |           |               |              |                                     | 370500                      | 376000 | 381500 |
|      | 5           | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 18.00                               |                             | 17.00  |        |
|      |             |               |           | 50% RB Low    | 0            | 18.00                               |                             | 17.02  |        |

**B.2.4.3 5G NR (FR1) Band 5 FDD Antenna Main 5**

| Band | BW<br>(MHz) | Modulation    | Mode      | RB Allocation | RB Offset | Factory upper<br>tolerance<br>(dBm) | Measured Output Power (dBm) |        |        |
|------|-------------|---------------|-----------|---------------|-----------|-------------------------------------|-----------------------------|--------|--------|
|      |             |               |           |               |           |                                     | Frequency (MHz) / Channel   |        |        |
|      |             |               |           |               |           |                                     | 834                         | 836.5  | 839    |
|      |             |               |           |               |           |                                     | 166800                      | 167300 | 167800 |
| NR5  | 20          | DFS-s<br>OFDM | PI/2 BPSK | 1RB Low       | 0         | 20.50                               |                             | 19.21  |        |
|      |             |               | QPSK      | 1RB Low       | 0         | 20.50                               |                             | 19.22  |        |
|      |             |               |           | 1RB Mid       | 50        | 20.50                               |                             | 19.47  |        |
|      |             |               |           | 1RB High      | 99        | 20.50                               |                             | 19.55  |        |
|      |             |               |           | 50% RB Low    | 0         | 20.50                               |                             | 19.36  |        |
|      |             |               |           | 50% RB Mid    | 25        | 20.50                               |                             | 19.51  |        |
|      |             |               |           | 50% RB High   | 49        | 20.50                               |                             | 19.55  |        |
|      |             |               |           | 100% RB       | 0         | 20.50                               |                             | 19.47  |        |
|      |             |               | 16QAM     | 1RB Low       | 0         | 20.50                               |                             | 19.43  |        |
|      |             |               | 64QAM     | 1RB Low       | 0         | 20.50                               |                             | 18.83  |        |
|      |             | 256QAM        | 1RB Low   | 0             | 20.50     | 19.38                               |                             |        |        |
|      |             | CP-OFDM       | QPSK      | 1RB Low       | 0         | 20.50                               |                             | 19.26  |        |
|      |             |               |           |               |           |                                     | Frequency (MHz) / Channel   |        |        |
|      |             |               |           |               |           |                                     | 831.5                       | 836.5  | 841.5  |
|      |             |               |           |               |           |                                     | 166300                      | 167300 | 168300 |
|      | 15          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0         | 20.50                               |                             | 19.21  |        |
|      |             |               |           | 50% RB Low    | 0         | 20.50                               |                             | 19.22  |        |
|      |             |               |           |               |           |                                     | Frequency (MHz) / Channel   |        |        |
|      |             |               |           |               |           |                                     | 829                         | 836.5  | 844    |
|      |             |               |           |               |           |                                     | 165800                      | 167300 | 168800 |
|      | 10          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0         | 20.50                               |                             | 19.24  |        |
|      |             |               |           | 50% RB Low    | 0         | 20.50                               |                             | 19.22  |        |
|      |             |               |           |               |           |                                     | Frequency (MHz) / Channel   |        |        |
|      |             |               |           |               |           |                                     | 826.5                       | 836.5  | 846.5  |
|      |             |               |           |               |           |                                     | 165300                      | 167300 | 169300 |
|      | 5           | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0         | 20.50                               |                             | 19.33  |        |
|      |             |               |           | 50% RB Low    | 0         | 20.50                               |                             | 19.41  |        |

**B.2.4.4 5G NR (FR1) Band 7 FDD Antenna Main 5**

| Band | BW<br>(MHz) | Modulation    | Mode      | RB Allocation | RB<br>Offset | Factory<br>upper<br>tolerance<br>(dBm) | Measured Output Power (dBm) |        |        |
|------|-------------|---------------|-----------|---------------|--------------|----------------------------------------|-----------------------------|--------|--------|
|      |             |               |           |               |              |                                        | Frequency (MHz) / Channel   |        |        |
|      |             |               |           |               |              |                                        | 2510                        | 2535   | 2560   |
|      |             |               |           |               |              |                                        | 502000                      | 507000 | 512000 |
| NR7  | 20          | DFS-s<br>OFDM | PI/2 BPSK | 1RB Low       | 0            | 14.00                                  |                             | 13.43  |        |
|      |             |               | QPSK      | 1RB Low       | 0            | 14.00                                  |                             | 13.41  |        |
|      |             |               |           | 1RB Mid       | 50           | 14.00                                  | 14.00                       | 14.00  | 14.00  |
|      |             |               |           | 1RB High      | 99           | 14.00                                  |                             | 13.30  |        |
|      |             |               |           | 50% RB Low    | 0            | 14.00                                  |                             | 13.42  |        |
|      |             |               |           | 50% RB Mid    | 25           | 14.00                                  | 14.00                       | 13.39  | 14.00  |
|      |             |               |           | 50% RB High   | 49           | 14.00                                  |                             | 13.44  |        |
|      |             |               |           | 100% RB       | 0            | 14.00                                  |                             | 14.00  |        |
|      |             |               | 16QAM     | 1RB Low       | 0            | 14.00                                  |                             | 13.67  |        |
|      |             |               | 64QAM     | 1RB Low       | 0            | 14.00                                  |                             | 13.12  |        |
|      |             |               | 256QAM    | 1RB Low       | 0            | 14.00                                  | 13.57                       |        |        |
|      |             | CP-OFDM       | QPSK      | 1RB Low       | 0            | 14.00                                  |                             | 13.51  |        |
|      |             |               |           |               |              |                                        | Frequency (MHz) / Channel   |        |        |
|      |             |               |           |               |              |                                        | 2507.5                      | 2535   | 2562.5 |
|      |             |               |           |               |              |                                        | 501500                      | 507000 | 512500 |
|      | 15          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 14.00                                  |                             | 13.46  |        |
|      |             |               |           | 50% RB Low    | 0            | 14.00                                  |                             | 13.43  |        |
|      |             |               |           |               |              |                                        | Frequency (MHz) / Channel   |        |        |
|      |             |               |           |               |              |                                        | 2505                        | 2535   | 2565   |
|      |             |               |           |               |              |                                        | 501000                      | 507000 | 513000 |
|      | 10          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 14.00                                  |                             | 13.28  |        |
|      |             |               |           | 50% RB Low    | 0            | 14.00                                  |                             | 13.24  |        |
|      |             |               |           |               |              |                                        | Frequency (MHz) / Channel   |        |        |
|      |             |               |           |               |              |                                        | 2502.5                      | 2535   | 2567.5 |
|      |             |               |           |               |              |                                        | 500500                      | 507000 | 513500 |
|      | 5           | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 14.00                                  |                             | 13.37  |        |
|      |             |               |           | 50% RB Low    | 0            | 14.00                                  |                             | 13.36  |        |



**B.2.4.5 5G NR (FR1) Band 25 FDD Antenna Main 5**

| Band | BW<br>(MHz) | Modulation    | Mode      | RB Allocation | RB<br>Offset | Factory<br>upper<br>tolerance<br>(dBm) | Measured Output Power (dBm) Antenna 5 |        |        |
|------|-------------|---------------|-----------|---------------|--------------|----------------------------------------|---------------------------------------|--------|--------|
|      |             |               |           |               |              |                                        | Frequency (MHz) / Channel             |        |        |
|      |             |               |           |               |              |                                        | 1860                                  | 1882.5 | 1905   |
|      |             |               |           |               |              |                                        | 372000                                | 376500 | 381000 |
| NR25 | 20          | DFS-s<br>OFDM | PI/2 BPSK | 1RB Low       | 0            | 16.50                                  |                                       | 15.57  |        |
|      |             |               | QPSK      | 1RB Low       | 0            | 16.50                                  |                                       | 15.56  |        |
|      |             |               |           | 1RB Mid       | 50           | 16.50                                  | 16.50                                 | 15.79  | 16.50  |
|      |             |               |           | 1RB High      | 99           | 16.50                                  |                                       | 15.79  |        |
|      |             |               |           | 50% RB Low    | 0            | 16.50                                  |                                       | 15.46  |        |
|      |             |               |           | 50% RB Mid    | 25           | 16.50                                  | 16.50                                 | 15.82  | 16.50  |
|      |             |               |           | 50% RB High   | 49           | 16.50                                  |                                       | 15.85  |        |
|      |             |               |           | 100% RB       | 0            | 16.50                                  |                                       | 15.67  |        |
|      |             |               | 16QAM     | 1RB Low       | 0            | 16.50                                  |                                       | 15.75  |        |
|      |             |               | 64QAM     | 1RB Low       | 0            | 16.50                                  |                                       | 15.13  |        |
|      |             |               | 256QAM    | 1RB Low       | 0            | 16.50                                  | 15.82                                 |        |        |
|      |             | CP-OFDM       | QPSK      | 1RB Low       | 0            | 16.50                                  | 15.66                                 |        |        |
|      |             |               |           |               |              |                                        | Frequency (MHz) / Channel             |        |        |
|      |             |               |           |               |              |                                        | 1857.5                                | 1882.5 | 1907.5 |
|      |             |               |           |               |              |                                        | 371500                                | 376500 | 381500 |
|      | 15          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 16.50                                  |                                       | 15.66  |        |
|      |             |               |           | 50% RB Low    | 0            | 16.50                                  |                                       | 15.68  |        |
|      |             |               |           |               |              |                                        | Frequency (MHz) / Channel             |        |        |
|      |             |               |           |               |              |                                        | 1855                                  | 1882.5 | 1910   |
|      |             |               |           |               |              |                                        | 371000                                | 376500 | 382000 |
|      | 10          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 16.50                                  |                                       | 15.62  |        |
|      |             |               |           | 50% RB Low    | 0            | 16.50                                  |                                       | 15.52  |        |
|      |             |               |           |               |              |                                        | Frequency (MHz) / Channel             |        |        |
|      |             |               |           |               |              |                                        | 1852.5                                | 1882.5 | 1912.5 |
|      |             |               |           |               |              |                                        | 370500                                | 376500 | 382500 |
|      | 5           | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 16.50                                  |                                       | 15.81  |        |
|      |             |               |           | 50% RB Low    | 0            | 16.50                                  |                                       | 15.80  |        |

**B.2.4.6 5G NR (FR1) Band 30 FDD Antenna 5**

| Band | BW<br>(MHz) | Modulation    | Mode      | RB Allocation | RB<br>Offset | Factory<br>upper<br>tolerance<br>(dBm) | Measured Output Power (dBm) |       |  |       |
|------|-------------|---------------|-----------|---------------|--------------|----------------------------------------|-----------------------------|-------|--|-------|
|      |             |               |           |               |              |                                        | Frequency (MHz) / Channel   |       |  |       |
| NR30 | 10          | DFS-s<br>OFDM | PI/2 BPSK | 1RB Low       | 0            | 18.00                                  |                             | 2310  |  |       |
|      |             |               | QPSK      | 1RB Low       | 0            | 18.00                                  |                             | 46200 |  |       |
|      |             |               |           | 1RB Mid       | 25           | 18.00                                  |                             | 17.04 |  |       |
|      |             |               |           | 1RB High      | 49           | 18.00                                  |                             | 17.09 |  |       |
|      |             |               |           | 50% RB Low    | 0            | 18.00                                  |                             | 17.16 |  |       |
|      |             |               |           | 50% RB Mid    | 12           | 18.00                                  |                             | 17.13 |  |       |
|      |             |               |           | 50% RB High   | 25           | 18.00                                  |                             | 16.93 |  |       |
|      |             |               |           | 100% RB       | 0            | 18.00                                  |                             | 17.13 |  |       |
|      |             |               |           | 16QAM         | 1RB Low      | 0                                      |                             | 18.00 |  | 17.01 |
|      |             |               | 64QAM     | 1RB Low       | 0            | 18.00                                  |                             | 17.09 |  |       |
|      |             |               | 256QAM    | 1RB Low       | 0            | 18.00                                  |                             | 17.32 |  |       |
|      |             |               | CP-OFDM   | QPSK          | 1RB Low      | 0                                      |                             | 18.00 |  | 16.61 |
|      |             |               |           |               |              |                                        |                             | 17.35 |  |       |
|      |             |               |           |               |              |                                        |                             | 17.14 |  |       |
|      |             |               |           |               |              |                                        | Frequency (MHz) / Channel   |       |  |       |
|      | 5           | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 18.00                                  |                             | 2310  |  |       |
|      |             |               |           | 50% RB Low    | 0            | 18.00                                  |                             | 46200 |  |       |
|      |             |               |           |               |              |                                        |                             | 17.33 |  |       |
|      |             |               |           |               |              | 17.35                                  |                             |       |  |       |

**B.2.4.7 5G NR (FR1) Band 38 TDD Antenna Main 5**

SAR Measurement for Band NR 38 FDD (Frequency range: 2570 – 2620MHz) is covered by Band NR41 TDD (Frequency range: 2496 – 2690MHz) due to overlapping frequency range, same maximum tune-up and same bandwidth.

**B.2.4.8 5G NR (FR1) Band 38 FDD Antenna Aux 8**

| Band | BW | Modulation | Mode      | RB Allocation | RB Offset | Factory upper tolerance (dBm) | Measured Output Power (dBm) |        |        |
|------|----|------------|-----------|---------------|-----------|-------------------------------|-----------------------------|--------|--------|
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 2590                        | 2595   | 2600   |
|      |    |            |           |               |           |                               | 518000                      | 519000 | 520000 |
| NR38 | 40 | DFS-s OFDM | PI/2 BPSK | 1RB Low       | 0         | 14.50                         |                             | 14.16  |        |
|      |    |            | QPSK      | 1RB Low       | 0         | 14.50                         |                             | 14.16  |        |
|      |    |            |           | 1RB Mid       | 136       | 14.50                         |                             | 14.22  |        |
|      |    |            |           | 1RB High      | 270       | 14.50                         |                             | 14.31  |        |
|      |    |            |           | 50% RB Low    | 0         | 14.50                         |                             | 14.25  |        |
|      |    |            |           | 50% RB Mid    | 68        | 14.50                         |                             | 14.28  |        |
|      |    |            |           | 50% RB High   | 137       | 14.50                         |                             | 14.39  |        |
|      |    |            |           | 100% RB       | 0         | 14.50                         |                             | 14.34  |        |
|      |    |            | 16QAM     | 1RB Low       | 0         | 14.50                         |                             | 14.20  |        |
|      |    |            | 64QAM     | 1RB Low       | 0         | 14.50                         |                             | 14.14  |        |
|      |    |            | 256QAM    | 1RB Low       | 0         | 14.50                         |                             | 14.47  |        |
|      |    | CP-OFDM    | QPSK      | 1RB Low       | 0         | 14.50                         |                             | 14.20  |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 2590                        | 2595   | 2600   |
|      |    |            |           |               |           |                               | 518000                      | 519000 | 560000 |
|      | 20 | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 14.50                         |                             | 14.17  |        |
|      |    |            |           | 50% RB Low    | 0         | 14.50                         |                             | 14.31  |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 2577.5                      | 2595   | 2612.5 |
|      |    |            |           |               |           |                               | 515500                      | 519000 | 522500 |
|      | 15 | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 14.50                         |                             | 14.24  |        |
|      |    |            |           | 50% RB Low    | 0         | 14.50                         |                             | 14.41  |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 2575                        | 2595   | 2615   |
|      |    |            |           |               |           |                               | 515000                      | 519000 | 523000 |
|      | 10 | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 14.50                         |                             | 14.35  |        |
|      |    |            |           | 50% RB Low    | 0         | 14.50                         |                             | 14.50  |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 2572.5                      | 2595   | 2617.5 |
|      |    |            |           |               |           |                               | 514500                      | 519000 | 523500 |
|      | 5  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 14.50                         |                             | 13.90  |        |
|      |    |            |           | 50% RB Low    | 0         | 14.50                         |                             | 13.96  |        |

**B.2.4.9 5G NR (FR1) Band 41 TDD Antenna Main 5**

| Band | BW<br>(MHz) | Modulation    | Mode      | RB Allocation | RB<br>Offset | Factory<br>upper<br>tolerance (dBm) | Measured Output Power (dBm) |                           |        |        |         |
|------|-------------|---------------|-----------|---------------|--------------|-------------------------------------|-----------------------------|---------------------------|--------|--------|---------|
|      |             |               |           |               |              |                                     | Frequency (MHz) / Channel   |                           |        |        |         |
|      |             |               |           |               |              |                                     | 2546                        | 2569.5                    | 2593   | 2616.5 | 2640    |
|      |             |               |           |               |              |                                     | 509200                      | 513900                    | 518598 | 523300 | 528000  |
| NR41 | 100         | DFS-s<br>OFDM | PI/2 BPSK | 1RB Low       | 0            | 15.00                               |                             | 13.42                     |        |        |         |
|      |             |               | QPSK      | 1RB Low       | 0            | 15.00                               |                             | 13.44                     |        |        |         |
|      |             |               |           | 1RB Mid       | 136          | 15.00                               |                             | 13.91                     |        |        |         |
|      |             |               |           | 1RB High      | 270          | 15.00                               |                             | 14.53                     |        |        |         |
|      |             |               |           | 50% RB Low    | 0            | 15.00                               |                             | 14.04                     |        |        |         |
|      |             |               |           | 50% RB Mid    | 68           | 15.00                               |                             | 14.39                     |        |        |         |
|      |             |               |           | 50% RB High   | 137          | 15.00                               |                             | 14.82                     |        |        |         |
|      |             |               |           | 100% RB       | 0            | 15.00                               |                             | 14.37                     |        |        |         |
|      |             |               | 16QAM     | 1RB Low       | 0            | 15.00                               |                             | 13.76                     |        |        |         |
|      |             |               | 64QAM     | 1RB Low       | 0            | 15.00                               |                             | 13.64                     |        |        |         |
|      |             | 256QAM        | 1RB Low   | 0             | 15.00        | 13.66                               |                             |                           |        |        |         |
|      |             | CP-<br>OFDM   | QPSK      | 1RB Low       | 0            | 15.00                               |                             | 13.37                     |        |        |         |
|      |             |               |           |               |              |                                     |                             | Frequency (MHz) / Channel |        |        |         |
|      |             |               |           |               |              |                                     | 2541                        | 2567                      | 2593   | 2619   | 2645    |
|      |             |               |           |               |              |                                     | 508200                      | 513400                    | 518598 | 523800 | 529000  |
|      | 90          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 15.00                               |                             | 13.43                     |        |        |         |
|      |             |               |           | 50% RB Low    | 0            | 15.00                               |                             | 14.05                     |        |        |         |
|      |             |               |           |               |              |                                     | Frequency (MHz) / Channel   |                           |        |        |         |
|      |             |               |           |               |              |                                     | 2536                        | 2564.5                    | 2593   | 2621.5 | 2650    |
|      |             |               |           |               |              |                                     | 507200                      | 512900                    | 518598 | 524300 | 530000  |
|      | 80          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 15.00                               |                             | 13.55                     |        |        |         |
|      |             |               |           | 50% RB Low    | 0            | 15.00                               |                             | 14.15                     |        |        |         |
|      |             |               |           |               |              |                                     | Frequency (MHz) / Channel   |                           |        |        |         |
|      |             |               |           |               |              |                                     | 2526                        | 2559.5                    | 2593   | 2626.5 | 2660    |
|      |             |               |           |               |              |                                     | 505200                      | 511900                    | 518598 | 525300 | 532000  |
|      | 60          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 15.00                               |                             | 13.80                     |        |        |         |
|      |             |               |           | 50% RB Low    | 0            | 15.00                               |                             | 14.00                     |        |        |         |
|      |             |               |           |               |              |                                     | Frequency (MHz) / Channel   |                           |        |        |         |
|      |             |               |           |               |              |                                     | 2521                        | 2557                      | 2593   | 2629   | 2665    |
|      |             |               |           |               |              |                                     | 504200                      | 511400                    | 518598 | 525800 | 5330000 |
|      | 50          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 15.00                               |                             | 13.76                     |        |        |         |
|      |             |               |           | 50% RB Low    | 0            | 15.00                               |                             | 14.04                     |        |        |         |
|      |             |               |           |               |              |                                     | Frequency (MHz) / Channel   |                           |        |        |         |
|      |             |               |           |               |              |                                     | 2516                        | 2554.5                    | 2593   | 2631.5 | 2670    |
|      |             |               |           |               |              |                                     | 503200                      | 510900                    | 518598 | 526300 | 534000  |
|      | 40          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 15.00                               |                             | 13.48                     |        |        |         |
|      |             |               |           | 50% RB Low    | 0            | 15.00                               |                             | 13.93                     |        |        |         |
|      |             |               |           |               |              |                                     | Frequency (MHz) / Channel   |                           |        |        |         |
|      |             |               |           |               |              |                                     | 2506                        | 2549.5                    | 2593   | 2636.5 | 2680    |
|      |             |               |           |               |              |                                     | 501200                      | 509900                    | 518598 | 527300 | 536000  |
|      | 20          | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0            | 15.00                               |                             | 14.04                     |        |        |         |
|      |             |               |           | 50% RB Low    | 0            | 15.00                               |                             | 14.10                     |        |        |         |

**B.2.4.10 5G NR (FR1) Band 41 TDD Antenna Aux 8**

| Band | BW  | Modulation | Mode      | RB Allocation | RB Offset | Factory upper tolerance (dBm) | Measured Output Power (dBm) |        |        |        |         |
|------|-----|------------|-----------|---------------|-----------|-------------------------------|-----------------------------|--------|--------|--------|---------|
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |         |
|      |     |            |           |               |           |                               | 2546                        | 2569.5 | 2593   | 2616.5 | 2640    |
|      |     |            |           |               |           |                               | 509200                      | 513900 | 518598 | 523300 | 528000  |
|      | 100 | DFS-s OFDM | PI/2 BPSK | 1RB Low       | 0         | 14.00                         |                             | 12.75  |        |        |         |
|      |     |            | QPSK      | 1RB Low       | 0         | 14.00                         |                             | 12.76  |        |        |         |
|      |     |            |           | 1RB Mid       | 136       | 14.00                         |                             | 12.88  |        |        |         |
|      |     |            |           | 1RB High      | 270       | 14.00                         |                             | 12.65  |        |        |         |
|      |     |            |           | 50% RB Low    | 0         | 14.00                         |                             | 13.26  |        |        |         |
|      |     |            |           | 50% RB Mid    | 68        | 14.00                         |                             | 13.28  |        |        |         |
|      |     |            |           | 50% RB High   | 137       | 14.00                         |                             | 13.39  |        |        |         |
|      |     |            |           | 100% RB       | 0         | 14.00                         |                             | 13.26  |        |        |         |
|      |     |            | 16QAM     | 1RB Low       | 0         | 14.00                         |                             | 13.15  |        |        |         |
|      |     |            | 64QAM     | 1RB Low       | 0         | 14.00                         |                             | 12.78  |        |        |         |
|      |     | 256QAM     | 1RB Low   | 0             | 14.00     | 13.05                         |                             |        |        |        |         |
|      |     | CP-OFDM    | QPSK      | 1RB Low       | 0         | 14.00                         |                             | 12.83  |        |        |         |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |         |
|      |     |            |           |               |           |                               | 2541                        | 2567   | 2593   | 2619   | 2645    |
|      |     |            |           |               |           |                               | 508200                      | 513400 | 518598 | 523800 | 529000  |
|      | 90  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 14.00                         |                             | 12.88  |        |        |         |
|      |     |            |           | 50% RB Low    | 0         | 14.00                         |                             | 13.21  |        |        |         |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |         |
|      |     |            |           |               |           |                               | 2536                        | 2564.5 | 2593   | 2621.5 | 2650    |
|      |     |            |           |               |           |                               | 507200                      | 512900 | 518598 | 524300 | 530000  |
|      | 80  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 14.00                         |                             | 13.03  |        |        |         |
|      |     |            |           | 50% RB Low    | 0         | 14.00                         |                             | 13.29  |        |        |         |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |         |
|      |     |            |           |               |           |                               | 2526                        | 2559.5 | 2593   | 2626.5 | 2660    |
|      |     |            |           |               |           |                               | 505200                      | 511900 | 518598 | 525300 | 532000  |
|      | 60  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 14.00                         |                             | 13.32  |        |        |         |
|      |     |            |           | 50% RB Low    | 0         | 14.00                         |                             | 13.24  |        |        |         |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |         |
|      |     |            |           |               |           |                               | 2521                        | 2557   | 2593   | 2629   | 2665    |
|      |     |            |           |               |           |                               | 504200                      | 511400 | 518598 | 525800 | 5330000 |
|      | 50  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 14.00                         |                             | 13.13  |        |        |         |
|      |     |            |           | 50% RB Low    | 0         | 14.00                         |                             | 13.20  |        |        |         |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |         |
|      |     |            |           |               |           |                               | 2516                        | 2554.5 | 2593   | 2631.5 | 2670    |
|      |     |            |           |               |           |                               | 503200                      | 510900 | 518598 | 526300 | 534000  |
|      | 40  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 14.00                         |                             | 12.77  |        |        |         |
|      |     |            |           | 50% RB Low    | 0         | 14.00                         |                             | 13.16  |        |        |         |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |         |
|      |     |            |           |               |           |                               | 2506                        | 2549.5 | 2593   | 2636.5 | 2680    |
|      |     |            |           |               |           |                               | 501200                      | 509900 | 518598 | 527300 | 536000  |
|      | 20  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 14.00                         |                             | 12.92  |        |        |         |
|      |     |            |           | 50% RB Low    | 0         | 14.00                         |                             | 13.11  |        |        |         |

**B.2.4.11 5G NR (FR1) Band 66 FDD Antenna Main 5**

| Band | BW | Modulation | Mode      | RB Allocation | RB Offset | Factory upper tolerance (dBm) | Measured Output Power (dBm) |        |        |
|------|----|------------|-----------|---------------|-----------|-------------------------------|-----------------------------|--------|--------|
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 1730                        | 1745   | 1760   |
|      |    |            |           |               |           |                               | 346000                      | 349000 | 352000 |
| NR66 | 40 | DFS-s OFDM | PI/2 BPSK | 1RB Low       | 0         | 19.00                         |                             | 17.89  |        |
|      |    |            | QPSK      | 1RB Low       | 0         | 19.00                         |                             | 17.90  |        |
|      |    |            |           | 1RB Mid       | 136       | 19.00                         |                             | 18.42  |        |
|      |    |            |           | 1RB High      | 270       | 19.00                         |                             | 17.83  |        |
|      |    |            |           | 50% RB Low    | 0         | 19.00                         |                             | 18.21  |        |
|      |    |            |           | 50% RB Mid    | 68        | 19.00                         |                             | 18.36  |        |
|      |    |            |           | 50% RB High   | 137       | 19.00                         |                             | 18.08  |        |
|      |    |            |           | 100% RB       | 0         | 19.00                         |                             | 18.10  |        |
|      |    |            | 16QAM     | 1RB Low       | 0         | 19.00                         |                             | 18.14  |        |
|      |    |            | 64QAM     | 1RB Low       | 0         | 19.00                         |                             | 17.48  |        |
|      |    | 256QAM     | 1RB Low   | 0             | 19.00     | 18.06                         |                             |        |        |
|      |    | CP-OFDM    | QPSK      | 1RB Low       | 0         | 19.00                         | 17.94                       |        |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 1725                        | 1745   | 1765   |
|      |    |            |           |               |           |                               | 345000                      | 349000 | 353000 |
|      | 30 | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 19.00                         |                             | 18.17  |        |
|      |    |            |           | 50% RB Low    | 0         | 19.00                         |                             | 18.27  |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 1720                        | 1745   | 1770   |
|      |    |            |           |               |           |                               | 344000                      | 349000 | 354000 |
|      | 20 | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 19.00                         |                             | 18.33  |        |
|      |    |            |           | 50% RB Low    | 0         | 19.00                         |                             | 18.32  |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 1717.5                      | 1745   | 1772.5 |
|      |    |            |           |               |           |                               | 343500                      | 349000 | 354500 |
|      | 15 | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 19.00                         |                             | 18.42  |        |
|      |    |            |           | 50% RB Low    | 0         | 19.00                         |                             | 18.43  |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 1715                        | 1745   | 1775   |
|      |    |            |           |               |           |                               | 343000                      | 349000 | 355000 |
|      | 10 | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 19.00                         |                             | 18.24  |        |
|      |    |            |           | 50% RB Low    | 0         | 19.00                         |                             | 18.21  |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 1712.5                      | 1745   | 1745   |
|      |    |            |           |               |           |                               | 342500                      | 349000 | 355500 |
|      | 5  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 19.00                         |                             | 18.36  |        |
|      |    |            |           | 50% RB Low    | 0         | 19.00                         |                             | 18.38  |        |

**B.2.4.12 5G NR (FR1) Band 66 FDD Antenna Aux 8**

| Band | BW | Modulation | Mode      | RB Allocation | RB Offset | Factory upper tolerance (dBm) | Measured Output Power (dBm) |        |        |
|------|----|------------|-----------|---------------|-----------|-------------------------------|-----------------------------|--------|--------|
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 1730                        | 1745   | 1760   |
|      |    |            |           |               |           |                               | 346000                      | 349000 | 352000 |
| NR66 | 40 | DFS-s OFDM | PI/2 BPSK | 1RB Low       | 0         | 19.00                         |                             | 17.66  |        |
|      |    |            | QPSK      | 1RB Low       | 0         | 19.00                         |                             | 17.66  |        |
|      |    |            |           | 1RB Mid       | 136       | 19.00                         |                             | 18.30  |        |
|      |    |            |           | 1RB High      | 270       | 19.00                         |                             | 17.74  |        |
|      |    |            |           | 50% RB Low    | 0         | 19.00                         |                             | 18.07  |        |
|      |    |            |           | 50% RB Mid    | 68        | 19.00                         |                             | 18.23  |        |
|      |    |            |           | 50% RB High   | 137       | 19.00                         |                             | 17.96  |        |
|      |    |            |           | 100% RB       | 0         | 19.00                         |                             | 17.96  |        |
|      |    |            | 16QAM     | 1RB Low       | 0         | 19.00                         |                             | 17.94  |        |
|      |    |            | 64QAM     | 1RB Low       | 0         | 19.00                         |                             | 17.65  |        |
|      |    | 256QAM     | 1RB Low   | 0             | 19.00     | 17.70                         |                             |        |        |
|      |    | CP-OFDM    | QPSK      | 1RB Low       | 0         | 19.00                         | 17.76                       |        |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 1725                        | 1745   | 1765   |
|      |    |            |           |               |           |                               | 345000                      | 349000 | 353000 |
|      | 30 | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 19.00                         |                             | 17.93  |        |
|      |    |            |           | 50% RB Low    | 0         | 19.00                         |                             | 18.17  |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 1720                        | 1745   | 1770   |
|      |    |            |           |               |           |                               | 344000                      | 349000 | 354000 |
|      | 20 | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 19.00                         |                             | 18.13  |        |
|      |    |            |           | 50% RB Low    | 0         | 19.00                         |                             | 18.23  |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 1717.5                      | 1745   | 1772.5 |
|      |    |            |           |               |           |                               | 343500                      | 349000 | 354500 |
|      | 15 | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 19.00                         |                             | 18.22  |        |
|      |    |            |           | 50% RB Low    | 0         | 19.00                         |                             | 18.35  |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 1715                        | 1745   | 1775   |
|      |    |            |           |               |           |                               | 343000                      | 349000 | 355000 |
|      | 10 | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 19.00                         |                             | 18.15  |        |
|      |    |            |           | 50% RB Low    | 0         | 19.00                         |                             | 18.11  |        |
|      |    |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |
|      |    |            |           |               |           |                               | 1712.5                      | 1745   | 1745   |
|      |    |            |           |               |           |                               | 342500                      | 349000 | 355500 |
|      | 5  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 19.00                         |                             | 18.23  |        |
|      |    |            |           | 50% RB Low    | 0         | 19.00                         |                             | 18.30  |        |

**B.2.4.13 5G NR (FR1) Band 77 TDD Antenna Main 5**

| Band | BW  | Modulation    | Mode      | RB Allocation | RB Offs<br>et | Factory<br>upper<br>tolerance<br>(dBm) | Measured Output Power (dBm) |        |        |        |        |       |       |        |        |       |
|------|-----|---------------|-----------|---------------|---------------|----------------------------------------|-----------------------------|--------|--------|--------|--------|-------|-------|--------|--------|-------|
|      |     |               |           |               |               |                                        | Frequency (MHz) / Channel   |        |        |        |        |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 3840                        | 3795   | 3750   | 3885   | 3930   |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 656600                      | 653000 | 650000 | 659000 | 662000 |       |       |        |        |       |
| NR77 | 100 | DFS-s<br>OFDM | PI/2 BPSK | 1RB Low       | 0             | 16.00                                  |                             | 15.03  |        |        |        |       |       |        |        |       |
|      |     |               | QPSK      | 1RB Low       | 0             | 16.00                                  |                             |        |        | 15.14  |        |       |       |        |        |       |
|      |     |               |           | 1RB Mid       | 136           | 16.00                                  |                             |        |        |        | 15.40  |       |       |        |        |       |
|      |     |               |           | 1RB High      | 270           | 16.00                                  |                             |        |        |        |        | 15.13 |       |        |        |       |
|      |     |               |           | 50% RB Low    | 0             | 16.00                                  |                             |        |        |        |        |       | 15.51 |        |        |       |
|      |     |               |           | 50% RB Mid    | 68            | 16.00                                  |                             |        |        |        |        |       |       | 15.74  |        |       |
|      |     |               |           | 50% RB High   | 137           | 16.00                                  |                             |        |        |        |        |       |       |        | 15.67  |       |
|      |     |               |           | 100% RB       | 0             | 16.00                                  |                             |        |        |        |        |       |       |        |        | 15.59 |
|      |     |               | 16QAM     | 1RB Low       | 0             | 16.00                                  |                             |        |        | 15.41  |        |       |       |        |        |       |
|      |     |               | 64QAM     | 1RB Low       | 0             | 16.00                                  |                             |        |        |        | 14.96  |       |       |        |        |       |
|      |     |               | 256QAM    | 1RB Low       | 0             | 16.00                                  |                             |        |        |        |        | 15.21 |       |        |        |       |
|      |     | CP-OFDM       | QPSK      | 1RB Low       | 0             | 16.00                                  |                             |        |        |        |        |       | 15.03 |        |        |       |
|      |     |               |           |               |               |                                        | Frequency (MHz) / Channel   |        |        |        |        |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 3840                        | 3795   | 3750   |        |        |       |       | 3885   | 3930   |       |
|      |     |               |           |               |               |                                        | 656600                      | 653000 | 650000 |        |        |       |       | 659000 | 662000 |       |
|      | 90  | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0             | 16.00                                  |                             | 15.22  |        |        |        |       |       |        |        |       |
|      |     |               |           | 50% RB Low    | 0             | 16.00                                  |                             |        |        | 15.52  |        |       |       |        |        |       |
|      |     |               |           |               |               |                                        | Frequency (MHz) / Channel   |        |        |        |        |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 3840                        | 3795   | 3750   | 3885   | 3930   |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 656600                      | 653000 | 650000 | 659000 | 662000 |       |       |        |        |       |
|      | 80  | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0             | 16.00                                  |                             | 15.30  |        |        |        |       |       |        |        |       |
|      |     |               |           | 50% RB Low    | 0             | 16.00                                  |                             |        |        | 15.60  |        |       |       |        |        |       |
|      |     |               |           |               |               |                                        | Frequency (MHz) / Channel   |        |        |        |        |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 3840                        | 3795   | 3750   | 3885   | 3930   |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 656600                      | 653000 | 650000 | 659000 | 662000 |       |       |        |        |       |
|      | 60  | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0             | 16.00                                  |                             | 15.49  |        |        |        |       |       |        |        |       |
|      |     |               |           | 50% RB Low    | 0             | 16.00                                  |                             |        |        | 15.60  |        |       |       |        |        |       |
|      |     |               |           |               |               |                                        | Frequency (MHz) / Channel   |        |        |        |        |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 3840                        | 3795   | 3750   | 3885   | 3930   |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 656600                      | 653000 | 650000 | 659000 | 662000 |       |       |        |        |       |
|      | 50  | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0             | 16.00                                  |                             | 15.41  |        |        |        |       |       |        |        |       |
|      |     |               |           | 50% RB Low    | 0             | 16.00                                  |                             |        |        | 15.62  |        |       |       |        |        |       |
|      |     |               |           |               |               |                                        | Frequency (MHz) / Channel   |        |        |        |        |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 3840                        | 3795   | 3750   | 3885   | 3930   |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 656600                      | 653000 | 650000 | 659000 | 662000 |       |       |        |        |       |
|      | 40  | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0             | 16.00                                  |                             | 15.00  |        |        |        |       |       |        |        |       |
|      |     |               |           | 50% RB Low    | 0             | 16.00                                  |                             |        |        | 15.60  |        |       |       |        |        |       |
|      |     |               |           |               |               |                                        | Frequency (MHz) / Channel   |        |        |        |        |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 3840                        | 3795   | 3750   | 3885   | 3930   |       |       |        |        |       |
|      |     |               |           |               |               |                                        | 656600                      | 653000 | 650000 | 659000 | 662000 |       |       |        |        |       |
|      | 20  | DFS-s<br>OFDM | QPSK      | 1RB Low       | 0             | 16.00                                  |                             | 15.24  |        |        |        |       |       |        |        |       |
|      |     |               |           | 50% RB Low    | 0             | 16.00                                  |                             |        |        | 15.62  |        |       |       |        |        |       |



**B.2.4.14 5G NR (FR1) Band 77 TDD Antenna Aux 8**

| Band | BW  | Modulation | Mode      | RB Allocation | RB Offset | Factory upper tolerance (dBm) | Measured Output Power (dBm) |        |        |        |        |
|------|-----|------------|-----------|---------------|-----------|-------------------------------|-----------------------------|--------|--------|--------|--------|
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                        | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                      | 653000 | 650000 | 659000 | 662000 |
| NR77 | 100 | DFS-s OFDM | PI/2 BPSK | 1RB Low       | 0         | 15.00                         |                             | 13.55  |        |        |        |
|      |     |            | QPSK      | 1RB Low       | 0         | 15.00                         |                             | 13.61  |        |        |        |
|      |     |            |           | 1RB Mid       | 136       | 15.00                         |                             | 13.67  |        |        |        |
|      |     |            |           | 1RB High      | 270       | 15.00                         |                             | 13.65  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.00                         |                             | 13.93  |        |        |        |
|      |     |            |           | 50% RB Mid    | 68        | 15.00                         |                             | 14.04  |        |        |        |
|      |     |            |           | 50% RB High   | 137       | 15.00                         |                             | 14.07  |        |        |        |
|      |     |            |           | 100% RB       | 0         | 15.00                         |                             | 13.96  |        |        |        |
|      |     |            | 16QAM     | 1RB Low       | 0         | 15.00                         |                             | 13.90  |        |        |        |
|      |     |            | 64QAM     | 1RB Low       | 0         | 15.00                         |                             | 13.75  |        |        |        |
|      |     | 256QAM     | 1RB Low   | 0             | 15.00     | 13.78                         |                             |        |        |        |        |
|      |     | CP-OFDM    | QPSK      | 1RB Low       | 0         | 15.00                         |                             | 13.51  |        |        |        |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                        | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                      | 653000 | 650000 | 659000 | 662000 |
|      | 90  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 15.00                         |                             | 13.65  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.00                         |                             | 13.93  |        |        |        |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                        | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                      | 653000 | 650000 | 659000 | 662000 |
|      | 80  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 15.00                         |                             | 13.62  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.00                         |                             | 13.99  |        |        |        |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                        | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                      | 653000 | 650000 | 659000 | 662000 |
|      | 60  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 15.00                         |                             | 13.87  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.00                         |                             | 13.93  |        |        |        |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                        | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                      | 653000 | 650000 | 659000 | 662000 |
|      | 50  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 15.00                         |                             | 13.76  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.00                         |                             | 13.97  |        |        |        |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                        | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                      | 653000 | 650000 | 659000 | 662000 |
|      | 40  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 15.00                         |                             | 13.44  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.00                         |                             | 13.86  |        |        |        |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel   |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                        | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                      | 653000 | 650000 | 659000 | 662000 |
|      | 20  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 15.00                         |                             | 13.64  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.00                         |                             | 13.89  |        |        |        |

**B.2.4.15 5G NR (FR1) Band 78 TDD Antenna Main 5**

SAR Measurement for Band NR 78 TDD (FCC Frequency range: 3700 – 3800MHz) is covered by Band NR77 TDD (FCC Frequency range: 3700 – 3980MHz) due to overlapping frequency range, same maximum tune-up and same bandwidth.

**B.2.4.16 5G NR (FR1) Band 78 TDD Antenna Aux 8**

| Band | BW  | Modulation | Mode      | RB Allocation | RB Offset | Factory upper tolerance (dBm) | Measured Output Power (dBm) Antenna 8 |        |        |        |        |
|------|-----|------------|-----------|---------------|-----------|-------------------------------|---------------------------------------|--------|--------|--------|--------|
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel             |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                                  | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                                | 653000 | 650000 | 659000 | 662000 |
| NR78 | 100 | DFS-s OFDM | PI/2 BPSK | 1RB Low       | 0         | 15.50                         |                                       | 13.84  |        |        |        |
|      |     |            | QPSK      | 1RB Low       | 0         | 15.50                         |                                       | 13.88  |        |        |        |
|      |     |            |           | 1RB Mid       | 136       | 15.50                         |                                       | 14.52  |        |        |        |
|      |     |            |           | 1RB High      | 270       | 15.50                         |                                       | 14.07  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.50                         |                                       | 14.26  |        |        |        |
|      |     |            |           | 50% RB Mid    | 68        | 15.50                         |                                       | 14.57  |        |        |        |
|      |     |            |           | 50% RB High   | 137       | 15.50                         |                                       | 14.50  |        |        |        |
|      |     |            |           | 100% RB       | 0         | 15.50                         |                                       | 14.35  |        |        |        |
|      |     |            | 16QAM     | 1RB Low       | 0         | 15.50                         |                                       | 14.20  |        |        |        |
|      |     |            | 64QAM     | 1RB Low       | 0         | 15.50                         |                                       | 14.08  |        |        |        |
|      |     | 256QAM     | 1RB Low   | 0             | 15.50     | 13.91                         |                                       |        |        |        |        |
|      |     | CP-OFDM    | QPSK      | 1RB Low       | 0         | 15.50                         | 13.91                                 |        |        |        |        |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel             |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                                  | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                                | 653000 | 650000 | 659000 | 662000 |
|      | 90  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 15.50                         |                                       | 13.91  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.50                         |                                       | 14.29  |        |        |        |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel             |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                                  | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                                | 653000 | 650000 | 659000 | 662000 |
|      | 80  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 15.50                         |                                       | 13.89  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.50                         |                                       | 14.39  |        |        |        |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel             |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                                  | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                                | 653000 | 650000 | 659000 | 662000 |
|      | 60  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 15.50                         |                                       | 13.84  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.50                         |                                       | 14.30  |        |        |        |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel             |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                                  | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                                | 653000 | 650000 | 659000 | 662000 |
|      | 50  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 15.50                         |                                       | 13.85  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.50                         |                                       | 14.32  |        |        |        |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel             |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                                  | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                                | 653000 | 650000 | 659000 | 662000 |
|      | 40  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 15.50                         |                                       | 13.62  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.50                         |                                       | 14.29  |        |        |        |
|      |     |            |           |               |           |                               | Frequency (MHz) / Channel             |        |        |        |        |
|      |     |            |           |               |           |                               | 3840                                  | 3795   | 3750   | 3885   | 3930   |
|      |     |            |           |               |           |                               | 656600                                | 653000 | 650000 | 659000 | 662000 |
|      | 20  | DFS-s OFDM | QPSK      | 1RB Low       | 0         | 15.50                         |                                       | 14.21  |        |        |        |
|      |     |            |           | 50% RB Low    | 0         | 15.50                         |                                       | 14.61  |        |        |        |

**B.2.4.17 5G NR (FR1) UL Carrier Aggregation**

For NR ULCA mode, each carrier transmits on separate antennas. Each exposure has been measured separately. For each, the highest standalone SAR conditions are added to derive the Total SAR. Refer to paragraph B2.4

### B.3 Tissue Parameters Measurement

#### Body TSL SAR System #2

| Body TSL   | Target TSL        |                | Measured TSL      |                | Deviation %           |                    | Date       |
|------------|-------------------|----------------|-------------------|----------------|-----------------------|--------------------|------------|
| Freq (MHz) | $\epsilon'$ (F/m) | $\sigma$ (S/m) | $\epsilon'$ (F/m) | $\sigma$ (S/m) | Deviation $\epsilon'$ | Deviation $\sigma$ |            |
| 750        | 55.53             | 0.96           | 53.48             | 0.94           | -3.69                 | -2.08              | 2021-11-22 |
| 830        | 55.19             | 0.98           | 53.24             | 0.98           | 55.19                 | 0.00               | 2021-11-22 |
| 1750       | 53.43             | 1.49           | 51.23             | 1.4            | -4.12                 | -6.04              | 2021-11-25 |
| 1900       | 53.3              | 1.52           | 51.04             | 1.58           | -4.24                 | 3.95               | 2021-11-22 |
| 1900       | 53.3              | 1.52           | 50.97             | 1.51           | -4.37                 | -0.66              | 2021-11-25 |
| 2300       | 52.9              | 1.81           | 50.53             | 1.9            | -4.48                 | 4.97               | 2021-11-22 |
| 2600       | 52.51             | 2.16           | 50.41             | 2.13           | -4.0                  | -1.39              | 2021-11-29 |
| 3700       | 51.05             | 3.55           | 48.27             | 3.38           | -5.45                 | -4.79              | 2021-11-22 |

#### Body TSL SAR System #4

| Body TSL   | Target TSL        |                | Measured TSL      |                | Deviation %           |                    | Date       |
|------------|-------------------|----------------|-------------------|----------------|-----------------------|--------------------|------------|
| Freq (MHz) | $\epsilon'$ (F/m) | $\sigma$ (S/m) | $\epsilon'$ (F/m) | $\sigma$ (S/m) | Deviation $\epsilon'$ | Deviation $\sigma$ |            |
| 830        | 55.23             | 0.98           | 53.19             | 0.93           | -3.69                 | -5.10              | 2021-11-16 |
| 1750       | 53.43             | 1.49           | 51.92             | 1.41           | -2.83                 | -5.37              | 2021-11-16 |
| 1750       | 53.43             | 52.12          | 1.53              | -2.21          | 0.66                  | -5.37              | 2021-11-25 |
| 1900       | 53.30             | 1.52           | 51.58             | 1.50           | -3.23                 | -1.32              | 2021-11-16 |
| 2300       | 52.90             | 1.81           | 51.12             | 1.81           | -3.36                 | 0.00               | 2021-11-16 |
| 2600       | 52.51             | 2.16           | 50.13             | 2.19           | -4.53                 | 1.39               | 2021-11-22 |
| 2600       | 52.51             | 2.16           | 50.72             | 2.10           | -3.41                 | -2.78              | 2021-11-16 |
| 3700       | 51.05             | 3.55           | 47.98             | 3.29           | -6.01                 | -7.32              | 2021-12-02 |

See Annex D below for more details.

### B.3.1 System Check Measurements

#### Body Measurements SAR System #2

| Frequency (MHz) | Average | Target SAR (W/Kg) | Measured SAR (W/Kg) | Deviation to target (%) | Limit (%) | Date       |
|-----------------|---------|-------------------|---------------------|-------------------------|-----------|------------|
| 750             | 1g      | 8.46              | 8.04                | -4.96                   | ±10       | 2021-11-23 |
|                 | 10g     | 5.59              | 5.12                | -8.41                   |           |            |
| 835             | 1g      | 9.63              | 9.10                | -5.50                   |           | 2021-11-23 |
|                 | 10g     | 6.31              | 6.00                | -4.91                   |           |            |
| 1750            | 1g      | 36.80             | 34.20               | -7.07                   |           | 2021-11-24 |
|                 | 10g     | 19.40             | 18.40               | -5.15                   |           |            |
|                 | 1g      | 36.80             | 33.60               | -8.70                   |           | 2021-11-25 |
|                 | 10g     | 19.40             | 18.06               | -6.91                   |           |            |
| 1900            | 1g      | 39.50             | 37.80               | -4.30                   |           | 2021-11-24 |
|                 | 10g     | 20.70             | 19.92               | -3.77                   |           |            |
|                 | 1g      | 39.50             | 36.80               | -6.84                   |           | 2021-11-25 |
|                 | 10g     | 20.70             | 19.44               | -6.09                   |           |            |
| 2300            | 1g      | 47.20             | 47.20               | 0.00                    |           | 2021-11-23 |
|                 | 10g     | 22.60             | 22.60               | 0.00                    |           |            |
| 2600            | 1g      | 54.60             | 58.60               | 7.33                    |           | 2021-11-22 |
|                 | 10g     | 24.20             | 25.60               | 5.79                    |           |            |
|                 | 1g      | 54.60             | 51.60               | -5.49                   |           | 2021-11-23 |
|                 | 10g     | 24.20             | 23.20               | -4.13                   |           |            |
| 3700            | 1g      | 62.10             | 59.80               | -3.70                   |           | 2021-11-24 |
|                 | 10g     | 22.20             | 22.00               | -0.90                   |           |            |

**Body Measurements SAR System #4**

| Frequency (MHz) | Average | Target SAR (W/Kg) | Measured SAR (W/Kg) | Deviation to target (%) | Limit (%) | Date       |
|-----------------|---------|-------------------|---------------------|-------------------------|-----------|------------|
| 835             | 1g      | 9.63              | 9.78                | 1.56                    | ±10       | 2021-11-17 |
|                 | 10g     | 6.31              | 6.40                | 1.43                    |           |            |
| 1750            | 1g      | 36.80             | 35.80               | -2.72                   |           | 2021-11-17 |
|                 | 10g     | 19.40             | 19.04               | -1.86                   |           |            |
| 1900            | 1g      | 39.50             | 40.20               | 1.77                    |           | 2021-11-16 |
|                 | 10g     | 20.70             | 21.00               | 1.45                    |           |            |
| 2300            | 1g      | 47.20             | 47.00               | -0.42                   |           | 2021-11-17 |
|                 | 10g     | 22.60             | 22.20               | -1.77                   |           |            |
| 2600            | 1g      | 54.60             | 51.80               | -5.13                   |           | 2021-11-17 |
|                 | 10g     | 24.20             | 23.00               | -4.96                   |           |            |
|                 | 1g      | 54.60             | 51.80               | -5.13                   |           | 2021-11-16 |
|                 | 10g     | 24.20             | 23.00               | -4.96                   |           |            |
|                 | 1g      | 54.60             | 52.40               | -4.03                   |           | 2021-12-03 |
|                 | 10g     | 24.20             | 23.40               | -3.31                   |           |            |
| 3700            | 1g      | 62.10             | 59.80               | -3.70                   |           | 2021-12-03 |
|                 | 10g     | 22.20             | 22.00               | -0.90                   |           |            |

See Annex C for more details.

## B.4 SAR Tablet Test Results

### B.4.1 WCDMA

| Radio Band Name | Antenna | BW (MHz) | Rate         | Channel Number | Freq (MHz) | Position   | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|-----------------|---------|----------|--------------|----------------|------------|------------|---------------------|------------------------|------------------------|--------|
| Band II         | Main 5  | 2        | RMC 12.2kbps | 9262           | 1852.4     | Top edge   | 0.56                | 0.67                   | 0.76                   |        |
|                 |         |          |              | 9400           | 1880       | Back Face  | 0.54                | 0.02                   | 0.03                   |        |
|                 |         |          |              |                |            | Right Edge | 0.54                | 0.30                   | 0.33                   |        |
|                 |         |          |              |                |            | Top edge   | 0.54                | 0.74                   | 0.83                   |        |
|                 |         |          |              | 9538           | 1907.6     | Top edge   | 0.60                | 0.84                   | 0.97                   | 1      |

| Radio Band Name | Antenna | BW (MHz) | Rate         | Channel Number | Freq (MHz) | Position   | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|-----------------|---------|----------|--------------|----------------|------------|------------|---------------------|------------------------|------------------------|--------|
| Band IV         | Main 5  | 5        | RMC 12.2kbps | 1312           | 1712.4     | Top edge   | 0.23                | 0.89                   | 0.94                   | 2      |
|                 |         |          |              | 1413           | 1732.6     | Back Face  | 0.35                | 0.02                   | 0.02                   |        |
|                 |         |          |              |                |            | Right Edge | 0.35                | 0.32                   | 0.34                   |        |
|                 |         |          |              |                |            | Top edge   | 0.35                | 0.87                   | 0.94                   |        |
|                 |         |          |              | 1513           | 1752.6     | Top edge   | 0.36                | 0.86                   | 0.93                   |        |

| Radio Band Name | Antenna | BW (MHz) | Rate         | Channel Number | Freq (MHz) | Position   | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|-----------------|---------|----------|--------------|----------------|------------|------------|---------------------|------------------------|------------------------|--------|
| Band V          | Main 5  | 5        | RMC 12.2kbps | 4132           | 826.4      | Top edge   | 0.45                | 0.86                   | 0.95                   | 3      |
|                 |         |          |              | 4183           | 836.6      | Back Face  | 0.53                | 0.07                   | 0.08                   |        |
|                 |         |          |              |                |            | Right Edge | 0.53                | 0.10                   | 0.12                   |        |
|                 |         |          |              |                |            | Top edge   | 0.53                | 0.79                   | 0.89                   |        |
|                 |         |          |              | 4183           | 836.6      | Top edge   | 0.51                | 0.75                   | 0.84                   |        |

## B.4.2 LTE

### B.4.2.1 LTE Band 5 FDD

| Band   | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|--------|--------|----------|------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|--------|
| Band 5 | Main 5 | 10       | QPSK | 20525          | 836.6      | Back Face  | 1RB Mid         | 1.00                | 0.07                   | 0.08                   |        |
|        |        |          |      |                |            |            | 50RB Mid        | 1.05                | 0.05                   | 0.07                   |        |
|        |        |          |      |                |            | Right Edge | 1RB Mid         | 1.00                | 0.09                   | 0.12                   |        |
|        |        |          |      |                |            |            | 50RB Mid        | 1.05                | 0.07                   | 0.09                   |        |
|        |        |          |      |                |            | Top edge   | 1RB Mid         | 0.99                | 0.91                   | 1.16                   | 4      |
|        |        |          |      |                |            |            | 50RB Mid        | 1.05                | 0.71                   | 0.91                   |        |
|        |        |          |      |                |            |            | 100RB Mid       | 0.99                | 0.73                   | 0.91                   |        |

### UL CA 5B

UL CA shall be tested based on the worst-case SAR configuration determined from standalone mode SAR testing result.

The channel BW, channel number, RB allocation, etc. would be selected to allow contiguous CA of PCC and SCC. Uplink output power for UL CA is the total power measured across the PCC and SCC.

Standalone testing in LTE Band5 is not required since Back Face is covered by LTE Band26. Top Edge position with low channel is chosen as the configuration that gives the highest SAR, thus, the same is used for UL CA testing T

| Band   | Antenna | Modulation / BW | PCC   |            |               | SCC   |            |               | Position | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|--------|---------|-----------------|-------|------------|---------------|-------|------------|---------------|----------|---------------------|------------------------|------------------------|
|        |         |                 | Ch    | Freq (MHz) | RB Allocation | Ch    | Freq (MHz) | RB Allocation |          |                     |                        |                        |
| LTE 5B | Main 5  | QPSK / 10MHz    | 20476 | 831.6      | 1RB High      | 20575 | 841.5      | 1RB Low       | Top Edge | 0.60                | 0.69                   | 0.79                   |

PCC RB allocation settings for UL CA have been adjusted based on the worst-case power

### LTE Band 5 for UL CA 5A Inter-band and ENDC

| Band   | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|--------|--------|----------|------|----------------|------------|----------|-----------------|---------------------|------------------------|------------------------|
| Band 5 | Main 5 | 10       | QPSK | 20525          | 836.6      | Top edge | 1RB Mid         | 0.78                | 0.33                   | 0.39                   |

**B.4.2.2 LTE Band 7 FDD**

| Band   | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|--------|--------|----------|------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|--------|
| Band 7 | Main 5 | 20       | QPSK | 20850          | 2510       | Top edge   | 1RB Mid         | 0.30                | 1.18                   | 1.26                   |        |
|        |        |          |      |                |            |            | 50RB Mid        | 0.34                | 0.94                   | 1.02                   |        |
|        |        |          |      | 21100          | 2535       | Back Face  | 1RB Mid         | 0.29                | 0.02                   | 0.02                   |        |
|        |        |          |      |                |            |            | 50RB Mid        | 0.34                | 0.02                   | 0.02                   |        |
|        |        |          |      |                |            | Right Edge | 1RB Mid         | 0.29                | 0.08                   | 0.08                   |        |
|        |        |          |      |                |            |            | 50RB Mid        | 0.34                | 0.06                   | 0.06                   |        |
|        |        |          |      |                |            | Top edge   | 1RB Mid         | 0.29                | 1.32                   | 1.41                   | 5      |
|        |        |          |      |                |            |            | 50RB Mid        | 0.34                | 1.05                   | 1.14                   |        |
|        |        |          |      |                |            |            | 100RB Mid       | 0.34                | 0.86                   | 0.93                   |        |
|        | Main 8 | 20       | QPSK | 21350          | 2560       | Top edge   | 1RB Mid         | 0.25                | 0.87                   | 0.92                   |        |
|        |        |          |      |                |            |            | 50RB Mid        | 0.38                | 0.69                   | 0.75                   |        |
|        |        |          |      | 20850          | 2510       | Top edge   | 1RB Mid         | 0.24                | 0.77                   | 0.82                   |        |
|        |        |          |      |                |            |            | 50RB Mid        | 0.31                | 0.61                   | 0.65                   |        |
|        |        |          |      |                |            | Back Face  | 1RB Mid         | 0.27                | 0.02                   | 0.02                   |        |
|        |        |          |      |                |            |            | 50RB Mid        | 0.21                | 0.02                   | 0.02                   |        |
|        |        |          |      |                |            | Top edge   | 1RB Mid         | 0.27                | 0.89                   | 0.95                   |        |
|        |        |          |      |                |            |            | 50RB Mid        | 0.21                | 0.70                   | 0.73                   |        |
|        |        |          |      |                |            |            | 100RB Mid       | 0.29                | 0.67                   | 0.72                   |        |
|        |        |          |      | 21350          | 2560       | Top edge   | 1RB Mid         | 0.11                | 0.88                   | 0.90                   |        |
|        |        |          |      |                |            |            | 50RB Mid        | 0.21                | 0.69                   | 0.73                   |        |

**UL CA 7C**

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

From the above table on standalone testing on LTE Band7, Laptop position with low channel is chosen as the configuration that gives the highest SAR, thus, the same is used for UL CA testing

| Band   | Antenna | Modulation / BW | PCC   |            |               | SCC   |            |               | Position | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|--------|---------|-----------------|-------|------------|---------------|-------|------------|---------------|----------|---------------------|------------------------|------------------------|
|        |         |                 | Ch    | Freq (MHz) | RB Allocation | Ch    | Freq (MHz) | RB Allocation |          |                     |                        |                        |
| LTE 7C | Main 5  | QPSK / 20MHz    | 21001 | 2525.1     | 1RB High      | 21199 | 2544.9     | 1RB Low       | Top Edge | 0.30                | 1.21                   | 1.30                   |
|        | Aux 8   | QPSK / 20MHz    | 21001 | 2525.1     | 1RB High      | 21199 | 2544.9     | 1RB Low       | Top Edge | 0.00                | 0.93                   | 0.93                   |

PCC RB allocation settings for UL CA have been adjusted based on the worst-case power

**LTE Band 7 for UL CA 7A Inter-band and ENDC**

| Band   | Ant   | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|--------|-------|----------|------|----------------|------------|----------|-----------------|---------------------|------------------------|------------------------|
| Band 7 | Aux 8 | 20       | QPSK | 20525          | 836.6      | Top edge | 1RB Mid         | 0.36                | 0.45                   | 0.49                   |



**B.4.2.3 LTE Band 12 FDD**

| Band    | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #   |
|---------|--------|----------|------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|----------|
| Band 12 | Main 5 | 10       | QPSK | 23095          | 707.5      | Back Face  | 1RB Mid         | 1.04                | 0.08                   | 0.10                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 1.07                | 0.06                   | 0.08                   |          |
|         |        |          |      |                |            | Right Edge | 1RB Mid         | 1.04                | 0.05                   | 0.07                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 1.07                | 0.04                   | 0.05                   |          |
|         |        |          |      |                |            | Top edge   | 1RB Mid         | 1.04                | 0.87                   | 1.10                   | <b>6</b> |
|         |        |          |      |                |            |            | 50RB Mid        | 1.07                | 0.69                   | 0.88                   |          |
|         |        |          |      |                |            |            | 100RB Mid       | 1.03                | 0.69                   | 0.87                   |          |

**LTE Band 12 for UL CA 12A Inter-band and ENDC**

| Band     | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|----------|--------|----------|------|----------------|------------|----------|-----------------|---------------------|------------------------|------------------------|
| Band 12A | Main 5 | 10       | QPSK | 23095          | 707.5      | Top edge | 1RB Mid         | 0.96                | 0.31                   | 0.39                   |

**B.4.2.4 LTE Band 13 FDD**

| Band    | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #   |
|---------|--------|----------|------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|----------|
| Band 13 | Main 5 | 10       | QPSK | 23230          | 782        | Back Face  | 1RB Mid         | 0.85                | 0.08                   | 0.09                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 0.92                | 0.06                   | 0.07                   |          |
|         |        |          |      |                |            | Right Edge | 1RB Mid         | 0.85                | 0.06                   | 0.08                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 0.92                | 0.05                   | 0.06                   |          |
|         |        |          |      |                |            | Top edge   | 1RB Mid         | 0.85                | 1.00                   | 1.23                   | <b>7</b> |
|         |        |          |      |                |            |            | 50RB Mid        | 0.92                | 0.78                   | 0.96                   |          |
|         |        |          |      |                |            |            | 100RB Mid       | 0.94                | 0.78                   | 0.97                   |          |

**LTE Band 13 for UL CA 13A Inter-band and ENDC**

| Band     | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|----------|--------|----------|------|----------------|------------|----------|-----------------|---------------------|------------------------|------------------------|
| Band 13A | Main 5 | 10       | QPSK | 23230          | 782        | Top edge | 1RB Mid         | 0.77                | 0.37                   | 0.44                   |

**B.4.2.5 LTE Band 14 FDD**

| Band    | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #   |
|---------|--------|----------|------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|----------|
| Band 14 | Main 5 | 10       | QPSK | 23330          | 793        | Back Face  | 1RB Mid         | 0.94                | 0.07                   | 0.08                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 0.97                | 0.05                   | 0.06                   |          |
|         |        |          |      |                |            | Right Edge | 1RB Mid         | 0.94                | 0.07                   | 0.08                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 0.97                | 0.05                   | 0.07                   |          |
|         |        |          |      |                |            | Top edge   | 1RB Mid         | 0.94                | 0.97                   | 1.22                   | <b>8</b> |
|         |        |          |      |                |            |            | 50RB Mid        | 0.97                | 0.76                   | 0.95                   |          |
|         |        |          |      |                |            |            | 100RB Mid       | 0.91                | 0.75                   | 0.92                   |          |

**LTE Band 14 for UL CA 14A Inter-band and ENDC**

| Band     | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|----------|--------|----------|------|----------------|------------|----------|-----------------|---------------------|------------------------|------------------------|
| Band 14A | Main 5 | 10       | QPSK | 23330          | 793        | Top edge | 1RB Mid         | 0.80                | 0.35                   | 0.43                   |

**B.4.2.6 LTE Band 25 FDD**

| Band    | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #   |
|---------|--------|----------|------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|----------|
| Band 25 | Main 5 | 20       | QPSK | 26140          | 1860       | Top edge   | 1RB Mid         | 0.41                | 0.69                   | 0.76                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 0.43                | 0.55                   | 0.60                   |          |
|         |        |          |      | 26365          | 1882.5     | Back Face  | 1RB Mid         | 0.52                | 0.06                   | 0.07                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 0.40                | 0.05                   | 0.06                   |          |
|         |        |          |      |                |            | Right Edge | 1RB Mid         | 0.52                | 0.06                   | 0.07                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 0.40                | 0.05                   | 0.05                   |          |
|         |        |          |      |                |            | Top edge   | 1RB Mid         | 0.52                | 0.76                   | 0.85                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 0.40                | 0.61                   | 0.67                   |          |
|         |        |          |      |                |            |            | 100RB Mid       | 0.58                | 0.59                   | 0.67                   |          |
|         | Aux 8  | 20       | QPSK | 26590          | 1905       | Top edge   | 1RB Mid         | 0.40                | 0.89                   | 0.98                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 0.40                | 0.72                   | 0.79                   |          |
|         |        |          |      | 26140          | 1860       | Top edge   | 1RB Mid         | 1.12                | 0.46                   | 0.59                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 1.10                | 0.69                   | 0.88                   |          |
|         |        |          |      |                |            | Back Face  | 1RB Mid         | 1.12                | 0.06                   | 0.08                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 1.04                | 0.05                   | 0.06                   |          |
|         |        |          |      |                |            | Top edge   | 1RB Mid         | 1.16                | 0.84                   | 1.09                   | <b>9</b> |
|         |        |          |      |                |            |            | 50RB Mid        | 1.04                | 0.67                   | 0.85                   |          |
|         |        |          |      |                |            |            | 100RB Mid       | 1.16                | 0.63                   | 0.83                   |          |
|         |        |          |      | 26590          | 1905       | Top edge   | 1RB Mid         | 1.08                | 0.84                   | 1.07                   |          |
|         |        |          |      |                |            |            | 50RB Mid        | 1.04                | 0.68                   | 0.86                   |          |

**LTE Band 25 for UL CA 25A Inter-band and ENDC**

| Band     | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|----------|--------|----------|------|----------------|------------|----------|-----------------|---------------------|------------------------|------------------------|
| Band 25A | Main 5 | 20       | QPSK | 23330          | 793        | Top edge | 1RB Mid         | 0.52                | 0.37                   | 0.42                   |
|          | Aux 8  | 20       | QPSK | 23330          | 793        | Top edge | 1RB Mid         | 0.86                | 0.39                   | 0.48                   |

**B.4.2.7 LTE Band 26 FDD**

| Band    | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #    |
|---------|--------|----------|------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|-----------|
| Band 26 | Main 5 | 15       | QPSK | 26865          | 831.5      | Back Face  | 1RB Mid         | 0.39                | 0.07                   | 0.08                   |           |
|         |        |          |      |                |            |            | 50RB Mid        | 0.48                | 0.06                   | 0.06                   |           |
|         |        |          |      |                |            | Right Edge | 1RB Mid         | 0.39                | 0.07                   | 0.08                   |           |
|         |        |          |      |                |            |            | 50RB Mid        | 0.48                | 0.06                   | 0.07                   |           |
|         |        |          |      |                |            | Top edge   | 1RB Mid         | 0.39                | 0.72                   | 0.79                   | <b>10</b> |
|         |        |          |      |                |            |            | 50RB Mid        | 0.48                | 0.57                   | 0.63                   |           |

**LTE Band 26 for UL CA 26A Inter-band and ENDC**

| Band     | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|----------|--------|----------|------|----------------|------------|----------|-----------------|---------------------|------------------------|------------------------|
| Band 26A | Main 5 | 20       | QPSK | 26865          | 831.5      | Top edge | 1RB Mid         | 0.36                | 0.33                   | 0.36                   |

**B.4.2.8 LTE Band 30 FDD**

| Band    | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|---------|--------|----------|------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|--------|
| Band 30 | Main 5 | 10       | QPSK | 27710          | 2310       | Back Face  | 1RB Mid         | 0.54                | 0.06                   | 0.07                   |        |
|         |        |          |      |                |            |            | 50RB Mid        | 0.67                | 0.05                   | 0.05                   |        |
|         |        |          |      |                |            | Right Edge | 1RB Mid         | 0.54                | 0.02                   | 0.02                   |        |
|         |        |          |      |                |            |            | 50RB Mid        | 0.67                | 0.01                   | 0.02                   |        |
|         |        |          |      |                |            | Top edge   | 1RB Mid         | 0.54                | 0.57                   | 0.64                   |        |
|         |        |          |      |                |            |            | 50RB Mid        | 0.67                | 0.44                   | 0.52                   |        |
|         | Main 8 | 10       | QPSK | 27710          | 2310       | Back Face  | 1RB Mid         | 0.39                | 0.06                   | 0.06                   |        |
|         |        |          |      |                |            |            | 50RB Mid        | 0.52                | 0.05                   | 0.05                   |        |
|         |        |          |      |                |            | Top edge   | 1RB Mid         | 0.39                | 0.95                   | 1.04                   | 11     |
|         |        |          |      |                |            |            | 50RB Mid        | 0.52                | 0.73                   | 0.82                   |        |
|         |        |          |      |                |            |            | 100RB Mid       | 0.59                | 0.71                   | 0.82                   |        |

**LTE Band 30 for UL CA 30A Inter-band and ENDC**

| Band     | Ant   | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|----------|-------|----------|------|----------------|------------|----------|-----------------|---------------------|------------------------|------------------------|
| Band 30A | Aux 8 | 10       | QPSK | 27710          | 2310       | Top edge | 1RB Mid         | 0.46                | 0.39                   | 0.43                   |

**B.4.2.9 LTE Band 41 TDD**

| Band    | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|---------|--------|----------|------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|--------|
| Band 41 | Main 5 | 20       | QPSK | 40620          | 2593       | Back Face  | 1RB Mid         | 1.82                | 0.03                   | 0.05                   |        |
|         |        |          |      |                |            |            | 50RB Mid        | 1.78                | 0.08                   | 0.12                   |        |
|         |        |          |      |                |            | Right Edge | 1RB Mid         | 1.82                | 0.01                   | 0.01                   |        |
|         |        |          |      |                |            |            | 50RB Mid        | 1.78                | 0.02                   | 0.02                   |        |
|         |        |          |      |                |            | Top edge   | 1RB Mid         | 1.82                | 0.38                   | 0.58                   |        |
|         |        |          |      |                |            |            | 50RB Mid        | 1.78                | 0.32                   | 0.48                   |        |
|         | Main 8 | 20       | QPSK | 40620          | 2593       | Back Face  | 1RB Mid         | 0.69                | 0.03                   | 0.04                   |        |
|         |        |          |      |                |            |            | 50RB Mid        | 0.71                | 0.08                   | 0.09                   |        |
|         |        |          |      |                |            | Top edge   | 1RB Mid         | 0.69                | 0.66                   | 0.77                   | 12     |
|         |        |          |      |                |            |            | 50RB Mid        | 0.71                | 0.54                   | 0.63                   |        |

## UL CA 41C

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

From the above table on standalone testing on LTE Band41, Back Face position on antenna5 and Laptop on antenna8 are chosen as the configurations that give the highest SAR, thus, the same is used for UL CA testing

| Band    | Antenna | Modulation / BW | PCC   |            |               | SCC   |            |               | Position | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|---------|---------|-----------------|-------|------------|---------------|-------|------------|---------------|----------|---------------------|------------------------|------------------------|
|         |         |                 | Ch    | Freq (MHz) | RB Allocation | Ch    | Freq (MHz) | RB Allocation |          |                     |                        |                        |
| LTE 41C | Aux 8   | QPSK / 20MHz    | 40521 | 2583.1     | 1RB High      | 40719 | 2602.9     | 1RB Low       | Top Edge | 0.35                | 0.44                   | 0.47                   |

PCC RB allocation settings for UL CA have been adjusted based on the worst-case power

## LTE Band 41 for UL CA 41A Inter-band and ENDC

| Band    | Ant    | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|---------|--------|----------|------|----------------|------------|----------|-----------------|---------------------|------------------------|------------------------|
| Band 41 | Main 5 | 20       | QPSK | 40620          | 2593       | Top edge | 1RB Mid         | 0.77                | 0.15                   | 0.17                   |
|         | Aux 8  | 20       | QPSK | 40620          | 2593       | Top edge | 1RB Mid         | 0.77                | 0.14                   | 0.16                   |

## B.4.2.10 LTE Band 48 TDD

| Band    | Ant    | BW (MHz) | Distance (mm) | Channel Number | Freq (MHz) | Position  | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|---------|--------|----------|---------------|----------------|------------|-----------|-----------------|---------------------|------------------------|------------------------|--------|
| Band 48 | Main 8 | 20       | 0             | 55990          | 3625       | Back Face | 1RB Mid         | 0.09                | 0.04                   | 0.04                   |        |
|         |        |          |               |                |            |           | 50RB Mid        | 0.04                | 0.04                   | 0.04                   |        |
|         |        |          |               |                |            | Top edge  | 1RB Mid         | 0.09                | 0.35                   | 0.36                   | 13     |
|         |        |          |               |                |            |           | 50RB Mid        | 0.04                | 0.29                   | 0.29                   |        |

## UL CA 48C

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

From the above table on standalone testing on LTE Band48, Back Face position on antenna5 and Laptop on antenna8 are chosen as the configurations that give the highest SAR, thus, the same is used for UL CA testing

| Band    | Antenna | Modulation / BW | PCC   |            |               | SCC   |            |               | Position | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|---------|---------|-----------------|-------|------------|---------------|-------|------------|---------------|----------|---------------------|------------------------|------------------------|
|         |         |                 | Ch    | Freq (MHz) | RB Allocation | Ch    | Freq (MHz) | RB Allocation |          |                     |                        |                        |
| LTE 48C | Aux 8   | QPSK / 20MHz    | 55891 | 3615.1     | 1RB High      | 56089 | 3634.9     | 1RB Low       | Top Edge | 0.28                | 0.31                   | 0.33                   |

PCC RB allocation settings for UL CA have been adjusted based on the worst-case power

## LTE Band 48 for UL CA 48 Inter-band and ENDC

| Band    | Ant   | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|---------|-------|----------|------|----------------|------------|----------|-----------------|---------------------|------------------------|------------------------|
| Band 48 | Aux 8 | 20       | QPSK | 55990          | 3625       | Top edge | 1RB Mid         | 0.55                | 0.15                   | 0.17                   |

**B.4.2.11 LTE Band 66 FDD**

| Band    | Ant    | BW (MHz) | Distance (mm) | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot # |
|---------|--------|----------|---------------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|--------|
| Band 66 | Main 5 | 20       | 0             | 132072         | 1720       | Top edge   | 1RB Mid         | 1.04                | 0.72                   | 0.92                   |        |
|         |        |          |               |                |            |            | 50RB Mid        | 1.07                | 0.58                   | 0.74                   |        |
|         |        |          |               | 132322         | 1745       | Back Face  | 1RB Mid         | 1.04                | 0.09                   | 0.12                   |        |
|         |        |          |               |                |            |            | 50RB Mid        | 1.04                | 0.08                   | 0.10                   |        |
|         |        |          |               |                |            | Right Edge | 1RB Mid         | 1.04                | 0.11                   | 0.14                   |        |
|         |        |          |               |                |            |            | 50RB Mid        | 1.04                | 0.08                   | 0.11                   |        |
|         |        |          |               |                |            | Top edge   | 1RB Mid         | 1.04                | 0.73                   | 0.92                   |        |
|         |        |          |               |                |            |            | 50RB Mid        | 1.04                | 0.58                   | 0.74                   |        |
|         |        |          |               |                |            |            | 100RB Mid       | 1.09                | 0.57                   | 0.73                   |        |
|         |        |          |               | 132572         | 1770       | Top edge   | 1RB Mid         | 0.99                | 0.75                   | 0.94                   | 14     |
|         |        |          |               |                |            |            | 50RB Mid        | 1.05                | 0.60                   | 0.76                   |        |
|         | Main 8 | 20       | 0             | 132322         | 1745       | Back Face  | 1RB Mid         | 1.31                | 0.09                   | 0.12                   |        |
|         |        |          |               |                |            |            | 50RB Mid        | 1.26                | 0.07                   | 0.10                   |        |
|         |        |          |               |                |            | Top edge   | 1RB Mid         | 1.31                | 0.55                   | 0.74                   |        |
|         |        |          |               |                |            |            | 50RB Mid        | 1.26                | 0.43                   | 0.57                   |        |

**UL CA 66B, 66C**

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

From the above table on standalone testing on LTE Band66, Laptop position in the low channel is chosen as the configurations that gives the highest SAR, thus, the same is used for UL CA testing for the 66C mode. Since the 10MHz was not tested in standalone, due to KDB 941225 reduction list, the initial configuration for the 66B mode was taken from the worst-case scenario of the 20MHz

| Band    | Antenna | Modulation / BW | PCC   |            |               | SCC   |            |               | Position | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|---------|---------|-----------------|-------|------------|---------------|-------|------------|---------------|----------|---------------------|------------------------|------------------------|
|         |         |                 | Ch    | Freq (MHz) | RB Allocation | Ch    | Freq (MHz) | RB Allocation |          |                     |                        |                        |
| LTE 66B | Main 5  | QPSK / 10MHz    | 21001 | 2525.1     | 1RB High      | 21199 | 2544.9     | 1RB Low       | Top Edge | 0.55                | 0.13                   | 0.14                   |
|         | Aux 8   | QPSK / 10MHz    | 21001 | 2525.1     | 1RB High      | 21199 | 2544.9     | 1RB Low       | Top Edge | 0.75                | 0.09                   | 0.11                   |
| LTE 66C | Main 5  | QPSK / 20MHz    | 21001 | 2525.1     | 1RB High      | 21199 | 2544.9     | 1RB Low       | Top Edge | 0.41                | 0.86                   | 0.94                   |
|         | Aux 8   | QPSK / 20MHz    | 21001 | 2525.1     | 1RB High      | 21199 | 2544.9     | 1RB Low       | Top Edge | 0.64                | 0.62                   | 0.72                   |

PCC RB allocation settings for UL CA has been adjusted based on the worst-case power

**LTE Band 66 for UL CA 66A Inter-band and ENDC**

| Band     | Ant   | BW (MHz) | Mod. | Channel Number | Freq (MHz) | Position | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) |
|----------|-------|----------|------|----------------|------------|----------|-----------------|---------------------|------------------------|------------------------|
| Band 66A | Aux 8 | 20       | QPSK | 132322         | 1745       | Top edge | 1RB Mid         | 0.40                | 0.38                   | 0.42                   |

**B.4.3 5G NR****B.4.3.1 5G NR 2**

| Band | Antenna | Modulation / BW | Channel Number | Freq (MHz) | Position  | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #    |
|------|---------|-----------------|----------------|------------|-----------|-----------------|---------------------|------------------------|------------------------|-----------|
| NR2  | Aux 8   | QPSK / 20MHz    | 372000         | 1860.0     | Top edge  | 1RB Low         | 0.03                | 0.79                   | 0.80                   |           |
|      |         |                 |                |            |           | 50RB Low        | 0.00                | 0.77                   | 0.77                   |           |
|      |         |                 | 376000         | 1880.0     | Back Face | 1RB Mid         | 0.91                | 0.35                   | 0.44                   |           |
|      |         |                 |                |            |           | 50RB Mid        | 0.91                | 0.36                   | 0.45                   |           |
|      |         |                 |                |            | Top edge  | 1RB Mid         | 0.91                | 0.85                   | 1.04                   | <b>15</b> |
|      |         |                 |                |            |           | 50RB Mid        | 0.91                | 0.78                   | 0.96                   |           |
|      |         |                 |                |            |           | 100RB Low       | 0.96                | 0.77                   | 0.96                   |           |
|      |         |                 | 380000         | 1900.0     | Top edge  | 1RB High        | 0.00                | 0.84                   | 0.84                   |           |
|      |         |                 |                |            |           | 50RB High       | 0.00                | 0.81                   | 0.81                   |           |

**B.4.3.2 5G NR 5**

| Band | Antenna | Modulation / BW | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #    |
|------|---------|-----------------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|-----------|
| NR5  | Main 5  | QPSK / 20MHz    | 167300         | 836.5      | Back Face  | 1RB Mid         | 1.03                | 0.27                   | 0.34                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.99                | 0.27                   | 0.34                   |           |
|      |         |                 |                |            | Right edge | 1RB Mid         | 1.03                | 0.11                   | 0.14                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.99                | 0.12                   | 0.14                   |           |
|      |         |                 |                |            | Top edge   | 1RB Mid         | 1.03                | 0.89                   | 1.13                   | <b>16</b> |
|      |         |                 |                |            |            | 50RB Mid        | 0.99                | 0.88                   | 1.11                   |           |
|      |         |                 |                |            |            | 100RB Low       | 1.03                | 0.86                   | 1.09                   |           |

**B.4.3.3 5G NR 7**

| Band | Antenna | Modulation / BW | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #    |
|------|---------|-----------------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|-----------|
| NR7  | Main 5  | QPSK / 20MHz    | 502000         | 2510.0     | Top edge   | 1RB Mid         | 0.00                | 1.26                   | 1.26                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.00                | 1.27                   | 1.27                   |           |
|      |         |                 | 507000         | 2535.0     | Back Face  | 1RB Mid         | 0.00                | 0.26                   | 0.26                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.00                | 0.26                   | 0.26                   |           |
|      |         |                 |                |            | Right edge | 1RB Mid         | 0.00                | 0.09                   | 0.09                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.00                | 0.09                   | 0.09                   |           |
|      |         |                 |                | 2560.0     | Top edge   | 1RB Mid         | 0.00                | 1.29                   | 1.29                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.00                | 1.28                   | 1.28                   |           |
|      |         |                 |                |            |            | 100RB Low       | 0.00                | 1.32                   | 1.32                   | <b>17</b> |
|      |         |                 | 512000         | 2560.0     | Top edge   | 1RB Mid         | 0.00                | 1.32                   | 1.32                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.00                | 1.32                   | 1.32                   |           |
|      |         |                 |                |            |            | 100RB Low       | 0.00                | 1.26                   | 1.26                   |           |

**B.4.3.4 5G NR 25**

| Band | Antenna | Modulation / BW | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #    |
|------|---------|-----------------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|-----------|
| NR25 | Main 5  | QPSK / 20MHz    | 372000         | 1860.0     | Top edge   | 1RB Low         | 0.04                | 0.99                   | 1.00                   |           |
|      |         |                 |                |            |            | 50RB Low        | 0.00                | 0.97                   | 0.97                   |           |
|      |         |                 | 376500         | 1882.5     | Back Face  | 1RB Mid         | 0.71                | 0.33                   | 0.39                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.68                | 0.33                   | 0.39                   |           |
|      |         |                 |                |            | Right edge | 1RB Mid         | 0.71                | 0.05                   | 0.06                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.68                | 0.05                   | 0.06                   |           |
|      |         |                 |                |            | Top edge   | 1RB Mid         | 0.71                | 1.01                   | 1.19                   | <b>18</b> |
|      |         |                 |                |            |            | 50RB Mid        | 0.68                | 0.98                   | 1.15                   |           |
|      |         |                 |                |            |            | 100RB Low       | 0.83                | 0.97                   | 1.17                   |           |
|      |         |                 | 381000         | 1905.0     | Top edge   | 1RB High        | 0.00                | 1.06                   | 1.06                   |           |
|      |         |                 |                |            |            | 50RB High       | 0.00                | 1.00                   | 1.00                   |           |

**B.4.3.5 5G NR 30**

| Band  | Antenna | Modulation / BW | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #    |
|-------|---------|-----------------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|-----------|
| NR 30 | Main 5  | QPSK / 10MHz    | 462000         | 2310.0     | Back Face  | 1RB Mid         | 0.84                | 0.32                   | 0.39                   |           |
|       |         |                 |                |            |            | 50RB Mid        | 0.87                | 0.32                   | 0.39                   |           |
|       |         |                 |                |            | Right edge | 1RB Mid         | 0.84                | 0.04                   | 0.05                   |           |
|       |         |                 |                |            |            | 50RB Mid        | 0.87                | 0.04                   | 0.05                   |           |
|       |         |                 |                |            | Top edge   | 1RB Mid         | 0.84                | 0.83                   | 1.01                   | <b>19</b> |
|       |         |                 |                |            |            | 50RB Mid        | 0.87                | 0.81                   | 0.99                   |           |
|       |         |                 |                |            |            | 100RB Low       | 0.91                | 0.79                   | 0.97                   |           |

**B.4.3.6 5G NR 38**

| Band  | Antenna | Modulation / BW | Channel Number | Freq (MHz) | Position | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #    |
|-------|---------|-----------------|----------------|------------|----------|-----------------|---------------------|------------------------|------------------------|-----------|
| NR 38 | Aux 8   | QPSK / 10MHz    | 519000         | 2595.0     | Top edge | 1RB Mid         | 0.28                | 1.06                   | 1.13                   | <b>20</b> |
|       |         |                 |                |            |          | 50RB Mid        | 0.22                | 1.04                   | 1.09                   |           |
|       |         |                 |                |            |          | 100RB Low       | 0.16                | 1.06                   | 1.10                   |           |

**B.4.3.7 5G NR 41**

| Band | Antenna | Modulation / BW | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #    |
|------|---------|-----------------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|-----------|
| NR41 | Main 5  | QPSK / 100MHz   | 518598         | 2593       | Back Face  | 1RB Mid         | 1.09                | 0.27                   | 0.35                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.61                | 0.29                   | 0.33                   |           |
|      |         |                 |                |            | Right edge | 1RB Mid         | 1.09                | 0.25                   | 0.32                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.61                | 0.30                   | 0.35                   |           |
|      |         |                 |                |            | Top edge   | 1RB Mid         | 1.09                | 0.79                   | 1.01                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.61                | 0.89                   | 1.02                   |           |
|      |         |                 |                |            |            | 100RB Low       | 0.63                | 1.02                   | 1.18                   | <b>21</b> |
|      | Aux 8   | QPSK / 100MHz   | 518598         | 2593       | Back Face  | 1RB Mid         | 1.12                | 0.27                   | 0.35                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.72                | 0.28                   | 0.33                   |           |
|      |         |                 |                |            | Top edge   | 1RB Mid         | 1.12                | 0.82                   | 1.06                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.72                | 0.83                   | 0.98                   |           |
|      |         |                 |                |            |            | 100RB Low       | 0.74                | 0.78                   | 0.92                   |           |

**B.4.3.8 5G NR 66**

| Band  | Antenna | Modulation / BW | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #    |
|-------|---------|-----------------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|-----------|
| NR 66 | Main 5  | QPSK / 40MHz    | 349000         | 1745.0     | Back Face  | 1RB Mid         | 0.58                | 0.31                   | 0.35                   |           |
|       |         |                 |                |            |            | 50RB Mid        | 0.64                | 0.32                   | 0.37                   |           |
|       |         |                 |                |            | Right edge | 1RB Mid         | 0.58                | 0.36                   | 0.41                   |           |
|       |         |                 |                |            |            | 50RB Mid        | 0.64                | 0.36                   | 0.42                   |           |
|       |         |                 |                |            | Top edge   | 1RB Mid         | 0.58                | 0.92                   | 1.05                   | <b>22</b> |
|       |         |                 |                |            |            | 50RB Mid        | 0.64                | 0.87                   | 1.00                   |           |
|       |         |                 |                |            |            | 100RB Low       | 0.90                | 0.84                   | 1.03                   |           |
|       | Aux 8   | QPSK / 40MHz    | 349000         | 1745.0     | Back Face  | 1RB Mid         | 0.70                | 0.48                   | 0.56                   |           |
|       |         |                 |                |            |            | 50RB Mid        | 0.77                | 0.48                   | 0.57                   |           |
|       |         |                 |                |            | Top edge   | 1RB Mid         | 0.70                | 0.73                   | 0.86                   |           |
|       |         |                 |                |            |            | 50RB Mid        | 0.77                | 0.72                   | 0.86                   |           |
|       |         |                 |                |            |            | 100RB Low       | 1.04                | 0.71                   | 0.90                   |           |



**B.4.3.9 5G NR 77**

| Band | Antenna | Modulation / BW | Channel Number | Freq (MHz) | Position   | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #    |
|------|---------|-----------------|----------------|------------|------------|-----------------|---------------------|------------------------|------------------------|-----------|
| NR77 | Main 5  | QPSK / 100MHz   | 650000         | 3750.0     | Back Face  | 1RB Mid         | 0.60                | 0.05                   | 0.06                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.26                | 0.06                   | 0.06                   |           |
|      |         |                 |                |            | Right edge | 1RB Mid         | 0.60                | 0.08                   | 0.09                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.26                | 0.09                   | 0.09                   |           |
|      |         |                 |                |            | Top edge   | 1RB Mid         | 0.60                | 0.26                   | 0.30                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.26                | 0.28                   | 0.30                   |           |
|      | Aux 8   | QPSK / 100MHz   | 650000         | 3750.0     | Back Face  | 1RB Mid         | 1.33                | 0.04                   | 0.06                   |           |
|      |         |                 |                |            |            | 50RB Mid        | 0.96                | 0.03                   | 0.04                   |           |
|      |         |                 |                |            | Top edge   | 1RB Mid         | 1.33                | 0.23                   | 0.32                   | <b>23</b> |
|      |         |                 |                |            |            | 50RB Mid        | 0.96                | 0.24                   | 0.30                   |           |

**B.4.3.10 5G NR 78**

| Band | Antenna | Modulation / BW | Channel Number | Freq (MHz) | Position  | % RB Allocation | Scaling Factor (dB) | Measured SAR 1g (W/Kg) | Reported SAR 1g (W/Kg) | Plot #    |
|------|---------|-----------------|----------------|------------|-----------|-----------------|---------------------|------------------------|------------------------|-----------|
| NR78 | Aux 8   | QPSK / 100MHz   | 650000         | 3750.0     | Back Face | 1RB Mid         | 0.98                | 0.36                   | 0.45                   |           |
|      |         |                 |                |            |           | 50RB Mid        | 0.93                | 0.37                   | 0.46                   |           |
|      |         |                 |                |            | Top edge  | 1RB Mid         | 0.98                | 0.38                   | 0.47                   | <b>24</b> |
|      |         |                 |                |            |           | 50RB Mid        | 0.93                | 0.37                   | 0.46                   |           |

#### B.4.4 SAR Measurement Variability

According to FCC OET KDB 865664, SAR Measurement variability is assessed when the maximum initial measured SAR is  $\geq 0.8$  W/kg for a certain band/mode. If the measured SAR value of the initial repeated measurement is  $< 1.45$  W/kg with  $< 20\%$  variation, only one repeated measurement is required to confirm that the results are not expected to have substantial variations.

A second repeated measurement is required only if the measured results for the initial repeated measurement are within 10% of the SAR limit or vary by more than 20%.

A third repeated measurement is required only if the original, first or second repeated measurement  $\geq 1.5$  W/Kg and the ratio of largest to smallest SAR for the original, first and second repeated measurement is  $> 1.2$ .

| Band / Mode                  | Position | Ch #  | Freq. (MHz) | Measured SAR 1g (W/kg) | 1 <sup>st</sup> Repeated SAR 1g (W/Kg) | 2 <sup>nd</sup> Repeated SAR 1g (W/Kg) | Highest Ratio |
|------------------------------|----------|-------|-------------|------------------------|----------------------------------------|----------------------------------------|---------------|
| LTE FDD 13 / QPSK<br>– 10MHz | Top edge | 23230 | 782.0       | 1.00                   | 0.99                                   |                                        | 1.01          |
| LTE FDD 5 / QPSK<br>– 10MHz  | Top edge | 20525 | 836.5       | 0.92                   | 0.87                                   |                                        | 1.05          |
| WCDMA FDD IV -<br>5MHz       | Top edge | 1313  | 1712.4      | 0.90                   | 0.89                                   |                                        | 1.01          |
| LTE FDD 25 / QPSK<br>– 20MHz | Top edge | 19150 | 1905.0      | 0.89                   | 0.88                                   |                                        | 1.01          |
| LTE FDD 7 / QPSK<br>– 20MHz  | Top edge | 27710 | 2310.0      | 1.18                   | 1.16                                   |                                        | 1.02          |
| LTE FDD 30 / QPSK<br>– 10MHz | Top edge | 21100 | 2535.0      | 1.32                   | 1.16                                   |                                        | 1.12          |

### B.4.5 Simultaneous Transmission SAR Evaluation

According to FCC OET KDB 447498 D01, when the sum of 1g SAR for all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration.

As commented on section 3 and 6, this report only evaluates SAR for cellular transmission on the module, nevertheless in order to consider all possible simultaneous transmissions on the device for compliance, WLAN SAR values reported on document [1] are considered.

[1] 210916-04.TR01 - HSN-I46C wAX211NGW WLAN\_WWAN – Legacy

[2] 210916-04.TR02 - HSN-I46C wAX211NGW WLAN\_WWAN – WiFi 6E

All the values stated in the table below are the worst case found for standalone measurement with disregard of the transmission mode or channel where the worst case was found

| Antenna          | Position   | Highest Reported SAR (1g) (W/Kg) |                       |                   |                   |                   |                   |                   |
|------------------|------------|----------------------------------|-----------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
|                  |            | WWAN                             |                       |                   | WLAN 2.4GHz       |                   | WLAN 5/6GHz       | Bluetooth         |
| WWAN<br>(Main 5) | Top Edge   | Standalone <sup>1</sup>          | LTE ULCA <sup>2</sup> | ENDC <sup>3</sup> |                   |                   |                   |                   |
|                  |            | 1.41                             | 0.44                  | 1.30              |                   |                   |                   |                   |
|                  | Back Face  | 0.39                             |                       |                   |                   |                   |                   |                   |
|                  | Right Edge | 0.42                             |                       |                   |                   |                   |                   |                   |
|                  | Left Edge  | 0.40 <sup>6</sup>                |                       |                   |                   |                   |                   |                   |
| WWAN<br>(Aux 8)  | Top Edge   | Standalone <sup>1</sup>          | LTE ULCA <sup>2</sup> |                   |                   |                   |                   |                   |
|                  |            | 1.13                             | 0.42                  |                   |                   |                   |                   |                   |
|                  | Back Face  | 0.57                             |                       |                   |                   |                   |                   |                   |
|                  | Right Edge | 0.40 <sup>6</sup>                |                       |                   |                   |                   |                   |                   |
|                  | Left Edge  | 0.40 <sup>6</sup>                |                       |                   |                   |                   |                   |                   |
| Main<br>WLAN     | Top Edge   |                                  |                       |                   | 1.17 <sup>4</sup> | 0.56 <sup>5</sup> | 0.64              |                   |
|                  | Back Face  |                                  |                       |                   | 0.05              |                   | 0.19              |                   |
|                  | Right Edge |                                  |                       |                   | 0.40 <sup>6</sup> |                   | 0.40 <sup>6</sup> |                   |
|                  | Left Edge  |                                  |                       |                   | 0.16              |                   | 0.19              |                   |
| Aux<br>WLAN      | Top Edge   |                                  |                       |                   | 1.13 <sup>4</sup> | 0.52 <sup>5</sup> | 0.92              | 0.22              |
|                  | Back Face  |                                  |                       |                   | 0.12              |                   | 0.15              | 0.04              |
|                  | Right Edge |                                  |                       |                   | 0.40 <sup>6</sup> |                   | 0.40 <sup>6</sup> | 0.40 <sup>6</sup> |
|                  | Left Edge  |                                  |                       |                   | 0.40 <sup>6</sup> |                   | 0.40 <sup>6</sup> | 0.40 <sup>6</sup> |

1. Standalone WWAN transmission

2. Standalone reduced 3dBm ULCA inter-band.

3. 5G ENDC mode.

4. WLAN SISO mode

5. WLAN MIMO mode

6. According to FCC OET KDB 447498 D01, when standalone test exclusion is applied to an antenna that transmits simultaneously with other antennas, the standalone SAR must be estimated to 0.4 W/Kg for 1-g SAR when the test separation is > 50mm in order to determine simultaneous transmission test exclusion.

| Position   | Simultaneous Tx Antenna Combination |             |            |              |                 | $\Sigma$ SAR 1g<br>(W/Kg) | Limit<br>(W/kg) |
|------------|-------------------------------------|-------------|------------|--------------|-----------------|---------------------------|-----------------|
|            | #                                   | WWAN Main 5 | WWAN Aux 8 | Main Antenna | Aux Antenna     |                           |                 |
| Top Edge   | 1                                   | Cellular    | Cellular   | WLAN 5/6GHz  | WLAN 5/6GHz     | <b>3.70</b>               | 1.6             |
|            | 2                                   | Cellular    | Cellular   | WLAN 5/6GHz  | WLAN 5/6GHz+ BT | <b>3.92</b>               |                 |
|            | 3                                   | Cellular    | Cellular   | WLAN 5/6GHz  | BT              | <b>3.40</b>               |                 |
|            | 4                                   | Cellular    | Cellular   | WLAN 2.4GHz  | WLAN 2.4GHz     | <b>4.84</b>               |                 |
|            | 5                                   | Cellular    | Cellular   | WLAN 2.4GHz  | BT              | <b>3.93</b>               |                 |
| Back Face  | 1                                   | Cellular    | Cellular   | WLAN 5/6GHz  | WLAN 5/6GHz     | 1.34                      |                 |
|            | 2                                   | Cellular    | Cellular   | WLAN 5/6GHz  | WLAN 5GHz+ BT   | 1.38                      |                 |
|            | 3                                   | Cellular    | Cellular   | WLAN 5/6GHz  | BT              | 1.19                      |                 |
|            | 4                                   | Cellular    | Cellular   | WLAN 2.4GHz  | WLAN 2.4GHz     | 1.13                      |                 |
|            | 5                                   | Cellular    | Cellular   | WLAN 2.4GHz  | BT              | 1.05                      |                 |
| Right Edge | 1                                   | Cellular    | Cellular   | WLAN 5/6GHz  | WLAN 5/6GHz     | <b>1.62</b>               |                 |
|            | 2                                   | Cellular    | Cellular   | WLAN 5/6GHz  | WLAN 5/6GHz+ BT | <b>2.02</b>               |                 |
|            | 3                                   | Cellular    | Cellular   | WLAN 5/6GHz  | BT              | <b>1.62</b>               |                 |
|            | 4                                   | Cellular    | Cellular   | WLAN 2.4GHz  | WLAN 2.4GHz     | <b>1.62</b>               |                 |
|            | 5                                   | Cellular    | Cellular   | WLAN 2.4GHz  | BT              | <b>1.62</b>               |                 |
| Left Edge  | 1                                   | Cellular    | Cellular   | WLAN 5/6GHz  | WLAN 5/6GHz     | 1.39                      |                 |
|            | 2                                   | Cellular    | Cellular   | WLAN 5/6GHz  | WLAN 5/6GHz+ BT | <b>1.70</b>               |                 |
|            | 3                                   | Cellular    | Cellular   | WLAN 5/6GHz  | BT              | 1.30                      |                 |
|            | 4                                   | Cellular    | Cellular   | WLAN 2.4GHz  | WLAN 2.4GHz     | 1.36                      |                 |
|            | 5                                   | Cellular    | Cellular   | WLAN 2.4GHz  | BT              | 1.36                      |                 |

In case the sum of SAR is larger than the limit, SAR test exclusion is determined by the SAR to peak location separation ratio. According to the last table possible simultaneous transmission combinations are identified for each position from 1 to 5, each combination will be analyzed by antenna pairs. Antenna pairs considered in one configuration won't be performed again in case they are repeated on the next simultaneous configuration:

| Position | Ant. Pair case | Antenna          | Reported SAR 1g (W/kg) | Σ SAR 1g (W/Kg) | Peak Location (mm) (x,y,z) | SAR to peak location separation ratio | Limit |
|----------|----------------|------------------|------------------------|-----------------|----------------------------|---------------------------------------|-------|
| Top Edge | 1a             | WWAN (Main 5)    | 1.41                   | 1.95            | (1.9 ; 115.2 ; -172.3)     | 0.03                                  | 0.04  |
|          |                | WWAN (Aux 8)     | 0.54 <sup>1</sup>      |                 | (-2.3 ; 49.9 ; -171.4)     |                                       |       |
|          |                | WWAN (Main 5)    | 1.30 <sup>2</sup>      | 1.73            | (1.9 ; 115.2 ; -172.3)     | 0.03                                  |       |
|          |                | WWAN (Aux 8)     | 0.42 <sup>2</sup>      |                 | (-2.3 ; 49.9 ; -171.4)     |                                       |       |
|          | 1b             | WWAN (Main 5)    | 1.41                   | 1.88            | (1.9 ; 115.2 ; -172.3)     | 0.02                                  |       |
|          |                | Main WLAN 5/6GHz | 0.47                   |                 | (-1.7; -52.2; -177.1)      |                                       |       |
|          | 1c             | WWAN (Main 5)    | 1.41                   | 2.07            | (1.9 ; 115.2 ; -172.3)     | 0.02                                  |       |
|          |                | Aux WLAN 5/6GHz  | 0.66                   |                 | (0; -34; -177.1)           |                                       |       |
|          | 1d             | WWAN (Aux 8)     | 1.13                   | 1.57            |                            |                                       |       |
|          |                | Main WLAN 5/6GHz | 0.47                   |                 |                            |                                       |       |
|          | 1e             | WWAN (Aux 8)     | 1.10                   | 1.77            | (-2.3 ; 49.9 ; -171.4)     | 0.03                                  |       |
|          |                | Aux WLAN 5/6GHz  | 0.66                   |                 | (0; -34; -177.1)           |                                       |       |
|          | 1f             | Main WLAN 5/6GHz | 0.47                   | 1.13            |                            |                                       |       |
|          |                | Aux WLAN 5/6GHz  | 0.66                   |                 |                            |                                       |       |
|          | 2a             | WWAN (Main 5)    | 1.41                   | 1.63            | (1.9 ; 115.2 ; -172.3)     | 0.01                                  |       |
|          |                | Aux WLAN1 BT     | 0.22                   |                 | (0,-24.5, -177.1)          |                                       |       |
|          | 2b             | WWAN (Aux 8)     | 1.13                   | 1.32            |                            |                                       |       |
|          |                | Aux WLAN1 BT     | 0.22                   |                 |                            |                                       |       |
|          | 4a             | WWAN (Main 5)    | 1.41                   | 2.58            | (1.9 ; 115.2 ; -172.3)     | 0.01                                  |       |
|          |                | Main WLAN 2.4GHz | 1.17                   |                 | (8.5,-74.5, -177.1)        |                                       |       |
|          | 4b             | WWAN (Main 5)    | 1.41                   | 2.54            | (1.9 ; 115.2 ; -172.3)     | 0.03                                  |       |
|          |                | AuxWLAN 2.4GHz   | 1.13                   |                 | (7.5; -24; -173.5)         |                                       |       |
|          | 4c             | WWAN (Aux 8)     | 1.10                   | 2.27            | (-2.3 ; 49.9 ; -171.4)     | 0.03                                  |       |
|          |                | Main WLAN 2.4GHz | 1.17                   |                 | (8.5,-74.5, -177.1)        |                                       |       |
|          | 4d             | WWAN (Aux 8)     | 1.13                   | 2.23            | (-2.3 ; 49.9 ; -171.4)     | 0.04                                  |       |
|          |                | AuxWLAN 2.4GHz   | 1.13                   |                 | (7.5; -24; -173.5)         |                                       |       |
|          | 4e             | Main WLAN 2.4GHz | 0.56 <sup>3</sup>      | 1.08            |                            |                                       |       |
|          |                | AuxWLAN1 2.4GHz  | 0.52 <sup>3</sup>      |                 |                            |                                       |       |

1. Standalone reduced 3dBm ULCA interband
2. 5G ENDC mode.
3. WLAN MIMO mode

| Position   | Ant. Pair case | Antenna          | Reported SAR 1g (W/kg) | $\Sigma$ SAR 1g (W/Kg) | Peak Location (mm) (x,y,z) | SAR to peak location separation ratio | Limit |
|------------|----------------|------------------|------------------------|------------------------|----------------------------|---------------------------------------|-------|
| Right Edge | 1a             | WWAN (Main 5)    | 0.42                   | 0.82                   |                            |                                       | 0.04  |
|            |                | WWAN (Aux 8)     | 0.40                   |                        |                            |                                       |       |
|            | 1b             | WWAN (Main 5)    | 0.42                   | 0.80                   |                            |                                       |       |
|            |                | Main WLAN 5/6GHz | 0.40                   |                        |                            |                                       |       |
|            | 1c             | WWAN (Main 5)    | 0.42                   | 0.82                   |                            |                                       |       |
|            |                | Aux WLAN 5/6GHz  | 0.40                   |                        |                            |                                       |       |
|            | 1d             | WWAN (Aux 8)     | 0.40                   | 0.80                   |                            |                                       |       |
|            |                | Main WLAN 5/6GHz | 0.40                   |                        |                            |                                       |       |
|            | 1e             | WWAN (Aux 8)     | 0.40                   | 0.80                   |                            |                                       |       |
|            |                | Aux WLAN 5/6GHz  | 0.40                   |                        |                            |                                       |       |
|            | 1f             | Main WLAN 5GHz   | 0.40                   | 0.80                   |                            |                                       |       |
|            |                | Aux WLAN 5GHz    | 0.40                   |                        |                            |                                       |       |
|            | 2a             | WWAN (Main 5)    | 0.42                   | 0.82                   |                            |                                       |       |
|            |                | Aux WLAN1 BT     | 0.40                   |                        |                            |                                       |       |
|            | 2b             | WWAN (Aux 8)     | 0.40                   | 0.80                   |                            |                                       |       |
|            |                | Aux WLAN1 BT     | 0.40                   |                        |                            |                                       |       |
|            | 4a             | WWAN (Main 5)    | 0.42                   | 0.82                   |                            |                                       |       |
|            |                | Main WLAN 2.4GHz | 0.40                   |                        |                            |                                       |       |
|            | 4b             | WWAN (Main 5)    | 0.42                   | 0.82                   |                            |                                       |       |
|            |                | Aux WLAN 2.4GHz  | 0.40                   |                        |                            |                                       |       |
|            | 4c             | WWAN (Aux 8)     | 0.40                   | 0.80                   |                            |                                       |       |
|            |                | Main WLAN 2.4GHz | 0.40                   |                        |                            |                                       |       |
|            | 4d             | WWAN (Aux 8)     | 0.40                   | 0.80                   |                            |                                       |       |
|            |                | Aux WLAN 2.4GHz  | 0.40                   |                        |                            |                                       |       |
|            | 4e             | Main WLAN 2.4GHz | 0.40                   | 0.80                   |                            |                                       |       |
|            |                | Aux WLAN1 2.4GHz | 0.40                   |                        |                            |                                       |       |

| Position  | Ant. Pair case | Antenna          | Reported SAR 1g (W/kg) | $\Sigma$ SAR 1g (W/Kg) | Peak Location (mm) (x,y,z) | SAR to peak location separation ratio | Limit |
|-----------|----------------|------------------|------------------------|------------------------|----------------------------|---------------------------------------|-------|
| Left Edge | 1a             | WWAN (Main 5)    | 0.40                   | 0.80                   |                            |                                       | 0.04  |
|           |                | WWAN (Aux 8)     | 0.40                   |                        |                            |                                       |       |
|           | 1b             | WWAN (Main 5)    | 0.40                   | 0.59                   |                            |                                       |       |
|           |                | Main WLAN 5/6GHz | 0.19                   |                        |                            |                                       |       |
|           | 1c             | WWAN (Main 5)    | 0.40                   | 0.80                   |                            |                                       |       |
|           |                | Aux WLAN 5/6GHz  | 0.40                   |                        |                            |                                       |       |
|           | 1d             | WWAN (Aux 8)     | 0.40                   | 0.59                   |                            |                                       |       |
|           |                | Main WLAN 5GHz   | 0.19                   |                        |                            |                                       |       |
|           | 1e             | WWAN (Aux 8)     | 0.40                   | 0.80                   |                            |                                       |       |
|           |                | Aux WLAN 5/6GHz  | 0.40                   |                        |                            |                                       |       |
|           | 1f             | Main WLAN 5GHz   | 0.19                   | 0.59                   |                            |                                       |       |
|           |                | Aux WLAN 5GHz    | 0.40                   |                        |                            |                                       |       |
|           | 2a             | WWAN (Main 5)    | 0.40                   | 0.80                   |                            |                                       |       |
|           |                | Aux WLAN1 BT     | 0.40                   |                        |                            |                                       |       |
|           | 2b             | WWAN (Aux 8)     | 0.40                   | 0.80                   |                            |                                       |       |
|           |                | Aux WLAN1 BT     | 0.40                   |                        |                            |                                       |       |
|           | 4a             | WWAN (Main 5)    | 0.40                   | 0.56                   |                            |                                       |       |
|           |                | Main WLAN 2.4GHz | 0.16                   |                        |                            |                                       |       |
|           | 4b             | WWAN (Main 5)    | 0.40                   | 0.80                   |                            |                                       |       |
|           |                | Aux WLAN 2.4GHz  | 0.40                   |                        |                            |                                       |       |
|           | 4c             | WWAN (Aux 8)     | 0.40                   | 0.56                   |                            |                                       |       |
|           |                | Main WLAN 2.4GHz | 0.16                   |                        |                            |                                       |       |
|           | 4d             | WWAN (Aux 8)     | 0.40                   | 0.80                   |                            |                                       |       |
|           |                | Aux WLAN 2.4GHz  | 0.40                   |                        |                            |                                       |       |
|           | 4e             | Main WLAN 2.4GHz | 0.16                   | 0.56                   |                            |                                       |       |
|           |                | Aux WLAN1 2.4GHz | 0.40                   |                        |                            |                                       |       |

# Annex C. Test System Plots

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|                                                                |     |
|----------------------------------------------------------------|-----|
| 1. WCDMA FDD II, 12.2kbps RMC, CH9538, Top Edge.....           | 106 |
| 2. WCDMA FDD IV, 12.2kbps RMC, CH1312, Top Edge .....          | 107 |
| 3. WCDMA FDD V, 12.2kbps RMC, CH4132, Top edge.....            | 108 |
| 4. LTE Band 5, QPSK - 10MHz, CH20525, Top Edge .....           | 109 |
| 5. LTE Band 7, QPSK - 20MHz, CH20850, Top Edge .....           | 110 |
| 6. LTE Band 12, QPSK - 10MHz, CH23095, Top Edge .....          | 111 |
| 7. LTE Band 13, QPSK - 10MHz, CH23230, Top edge.....           | 112 |
| 8. LTE Band 14, QPSK - 10MHz, CH23330, Top edge.....           | 113 |
| 9. LTE Band 25, QPSK - 20MHz, CH26365, Top Edge .....          | 114 |
| 10. LTE Band 26, QPSK - 15MHz, CH26865, Top Edge.....          | 115 |
| 11. LTE Band 30, QPSK - 10MHz, CH27710, Top Edge.....          | 116 |
| 12. LTE Band 41, QPSK - 20MHz, CH40620, Top Edge.....          | 117 |
| 13. LTE Band 48, QPSK - 20MHz, CH55990, Top Edge.....          | 118 |
| 14. LTE Band 66, QPSK - 20MHz, CH132572, Top Edge.....         | 119 |
| 15. 5G NR FR1 Band 2, QPSK - 20MHz, CH376000 – Top Edge.....   | 120 |
| 16. 5G NR FR1 Band 5, QPSK - 20MHz, CH167300 – Top Edge.....   | 121 |
| 17. 5G NR FR1 Band 7, QPSK - 20MHz, CH507000 – Top Edge.....   | 122 |
| 18. 5G NR FR1 Band 25, QPSK - 20MHz, CH381000 – Top Edge.....  | 123 |
| 19. 5G NR FR1 Band 30, QPSK - 10MHz, CH462000 – Top Edge.....  | 124 |
| 20. 5G NR FR1 Band 38, QPSK - 10MHz, CH519000 – Top Edge.....  | 125 |
| 21. 5G NR FR1 Band 41, QPSK - 100MHz, CH518598 – Top Edge..... | 126 |
| 22. 5G NR FR1 Band 66, QPSK - 40MHz, CH349000 – Top Edge.....  | 127 |
| 23. 5G NR FR1 Band 77, QPSK - 100MHz, CH650000 – Top Edge..... | 128 |
| 24. 5G NR FR1 Band 78, QPSK - 100MHz, CH650000 – Top Edge..... | 129 |
| 25. System Check Body Liquid 750MHz .....                      | 130 |
| 26. System Check Body Liquid 835MHz - 2021-11-23.....          | 131 |
| 27. System Check Body Liquid 835MHz - 2021-11-17.....          | 132 |
| 28. System Check Body Liquid 1750MHz – 2021-11-25.....         | 133 |
| 29. System Check Body Liquid 1750MHz – 2021-11-24.....         | 134 |
| 30. System Check Body Liquid 1750MHz – 2021-11-17.....         | 135 |
| 31. System Check Body Liquid 1900MHz - 2021-11-24.....         | 136 |
| 32. System Check Body Liquid 1900MHz - 2021-11-25.....         | 137 |
| 33. System Check Body Liquid 1900MHz - 2021-11-16.....         | 138 |
| 34. System Check Body Liquid 2300MHz - 2021-11-30.....         | 139 |
| 35. System Check Body Liquid 2300MHz - 2021-11-17.....         | 140 |
| 36. System Check Body Liquid 2600MHz – 2021-11-22.....         | 141 |
| 37. System Check Body Liquid 2600MHz – 2021-11-23.....         | 142 |
| 38. System Check Body Liquid 2600MHz – 2021-11-17.....         | 143 |
| 39. System Check Body Liquid 2600MHz – 2021-11-16.....         | 144 |



|            |                                                            |            |
|------------|------------------------------------------------------------|------------|
| <b>40.</b> | <b>System Check Body Liquid 2600MHz – 2021-12-03 .....</b> | <b>145</b> |
| <b>41.</b> | <b>System Check Body Liquid 3700MHz .....</b>              | <b>146</b> |

## 1. WCDMA FDD II, 12.2kbps RMC, CH9538, Top Edge

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HSN-I46C           | 225.0 x 315.0 x 17.0 | 00017609DK | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band             | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | EDGE TOP, 0.00               | Band 2, UTRA/FDD | WCDMA, 10011-CAB | 1907.6, 9538                    | 7.97              | 1.51                   | 51.0             |

### Hardware Setup

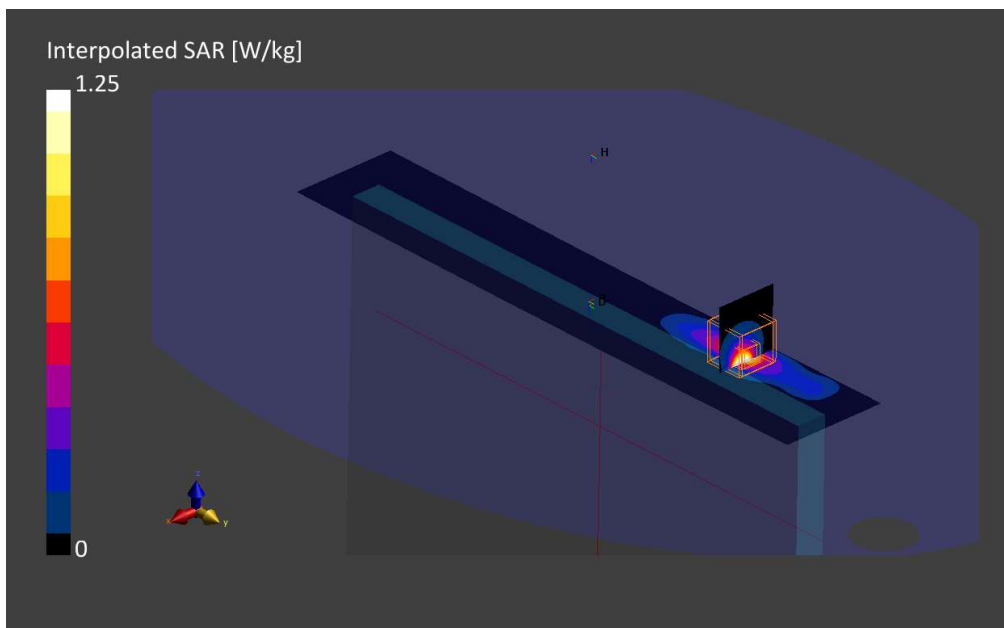
| Phantom                     | TSL, Measured Date         | Probe, Calibration Date     | DAE, Calibration Date   |
|-----------------------------|----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) | MBBL-600-6000, 2021-Nov-25 | EX3DV4 - SN3978, 2021-05-21 | DAE4 Sn1429, 2021-05-11 |

### Scan Setup

|                     | Area Scan         | Zoom Scan          |
|---------------------|-------------------|--------------------|
| Grid Extents [mm]   | 60.0 x 330.0      | 30.0 x 30.0 x 30.0 |
| Grid Steps [mm]     | 15.0 x 15.0       | 4.9 x 4.9 x 1.4    |
| Sensor Surface [mm] | 3.0               | 1.4                |
| Graded Grid         | Yes               | Yes                |
| Grading Ratio       | 1.5               | 1.4                |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA  |
| Surface Detection   | VMS + 6p          | VMS + 6p           |
| Scan Method         | Measured          | Measured           |

### Measurement Results

|                  | Area Scan         | Zoom Scan         |
|------------------|-------------------|-------------------|
| Date             | 2021-11-25, 14:15 | 2021-11-25, 14:25 |
| psSAR1g [W/kg]   | 0.808             | 0.842             |
| psSAR10g [W/kg]  | 0.366             | 0.345             |
| Power Drift [dB] | 0.03              | 0.05              |
| Power Scaling    | Disabled          | Disabled          |
| Scaling Factor   |                   |                   |
| TSL Correction   | Positive Only     | Positive Only     |
| M2/M1 [%]        |                   | 73.6              |
| Dist3dBPeak [mm] |                   | 5.9               |



## 2. WCDMA FDD IV, 12.2kbps RMC, CH1312, Top Edge

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HSN-I46C           | 225.0 x 315.0 x 17.0 | 00017609DK | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band             | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | EDGE TOP, 0.00               | Band 4, UTRA/FDD | WCDMA, 10011-CAB | 1712.4, 1312                    | 8.26              | 1.38                   | 51.3             |

### Hardware Setup

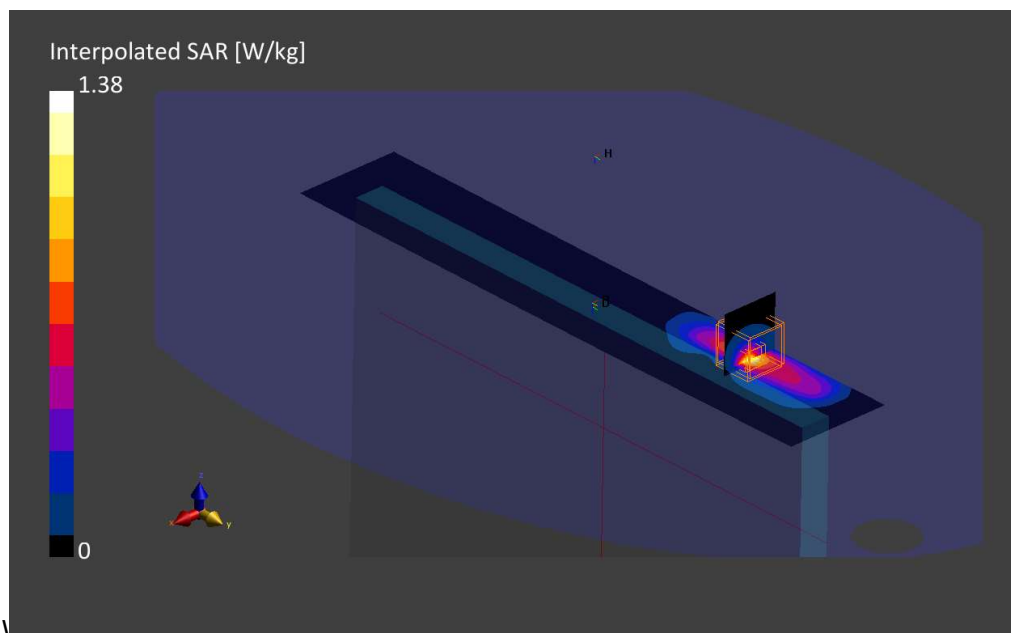
| Phantom                     | TSL, Measured Date         | Probe, Calibration Date     | DAE, Calibration Date   |
|-----------------------------|----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) | MBBL-600-6000, 2021-Nov-25 | EX3DV4 - SN3978, 2021-05-21 | DAE4 Sn1429, 2021-05-11 |

### Scan Setup

|                     | Area Scan         | Zoom Scan          |
|---------------------|-------------------|--------------------|
| Grid Extents [mm]   | 60.0 x 330.0      | 30.0 x 30.0 x 30.0 |
| Grid Steps [mm]     | 15.0 x 15.0       | 5.4 x 5.4 x 1.5    |
| Sensor Surface [mm] | 3.0               | 1.4                |
| Graded Grid         | Yes               | Yes                |
| Grading Ratio       | 1.5               | 1.5                |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA  |
| Surface Detection   | VMS + 6p          | VMS + 6p           |
| Scan Method         | Measured          | Measured           |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2021-11-25, 12:37 | 2021-11-25, 12:44 |
| psSAR1g [W/kg]      | 0.873             | 0.894             |
| psSAR10g [W/kg]     | 0.439             | 0.389             |
| Power Drift [dB]    | 0.05              | 0.14              |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |
| M2/M1 [%]           |                   | 71.4              |
| Dist3dBPeak[mm]     |                   | 5.4               |



### 3. WCDMA FDD V, 12.2kbps RMC, CH4132, Top edge

#### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HSN-I46C           | 225.0 x 315.0 x 17.0 | 00017609DK | Convertible PC |

#### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band             | Group, UID       | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|------------------|------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | EDGE TOP, 0.00               | Band 5, UTRA/FDD | WCDMA, 10011-CAB | 826.4, 4132                     | 9.79              | 0.97                   | 53.3             |

#### Hardware Setup

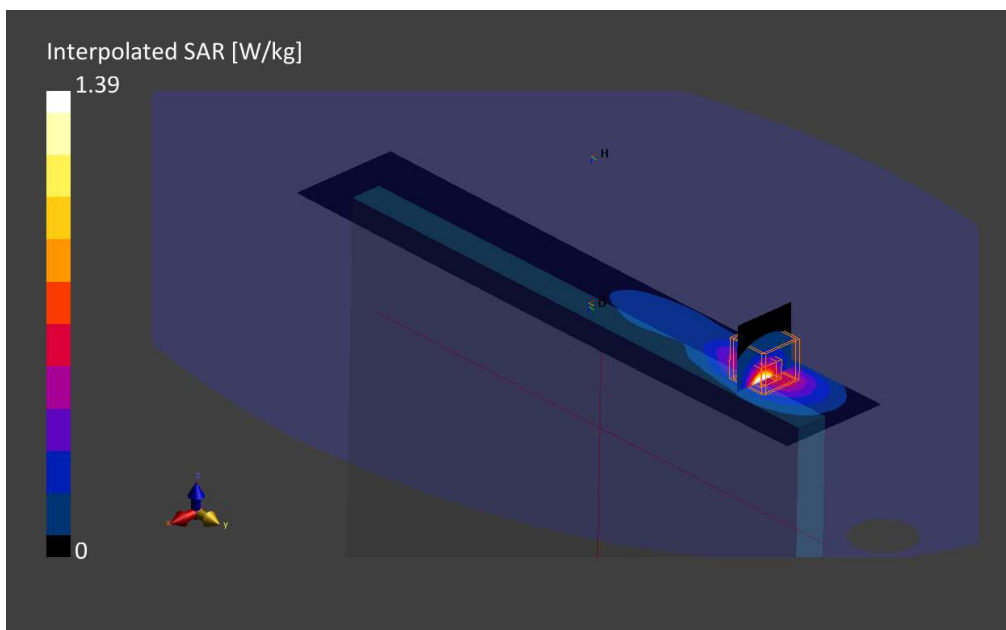
| Phantom                     | TSL, Measured Date         | Probe, Calibration Date     | DAE, Calibration Date   |
|-----------------------------|----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) | MBBL-600-6000, 2021-Nov-22 | EX3DV4 - SN3978, 2021-05-21 | DAE4 Sn1429, 2021-05-11 |

#### Scan Setup

|                     | Area Scan         | Zoom Scan          |
|---------------------|-------------------|--------------------|
| Grid Extents [mm]   | 60.0 x 330.0      | 30.0 x 30.0 x 30.0 |
| Grid Steps [mm]     | 15.0 x 15.0       | 4.9 x 4.9 x 1.4    |
| Sensor Surface [mm] | 3.0               | 1.4                |
| Graded Grid         | Yes               | Yes                |
| Grading Ratio       | 1.5               | 1.4                |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA  |
| Surface Detection   | VMS + 6p          | VMS + 6p           |
| Scan Method         | Measured          | Measured           |

#### Measurement Results

|                  | Area Scan         | Zoom Scan         |
|------------------|-------------------|-------------------|
| Date             | 2021-11-23, 19:28 | 2021-11-23, 19:38 |
| psSAR1g [W/kg]   | 0.638             | 0.859             |
| psSAR10g[W/kg]   | 0.397             | 0.419             |
| Power Drift [dB] | 0.03              | -0.01             |
| Power Scaling    | Disabled          | Disabled          |
| Scaling Factor   |                   |                   |
| TSL Correction   | Positive Only     | Positive Only     |
| M2/M1 [%]        |                   | 68.2              |
| Dist3dBPeak[mm]  |                   | 5.9               |



#### 4. LTE Band 5, QPSK - 10MHz, CH20525, Top Edge

##### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HSN-I46C           | 225.0 x 315.0 x 17.0 | 00017609DK | Convertible PC |

##### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band               | Group, UID         | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|--------------------|--------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | EDGE TOP, 0.00               | Band 5, E-UTRA/FDD | LTE-FDD, 10175-CAG | 836.5, 20525                    | 9.79              | 0.98                   | 53.2             |

##### Hardware Setup

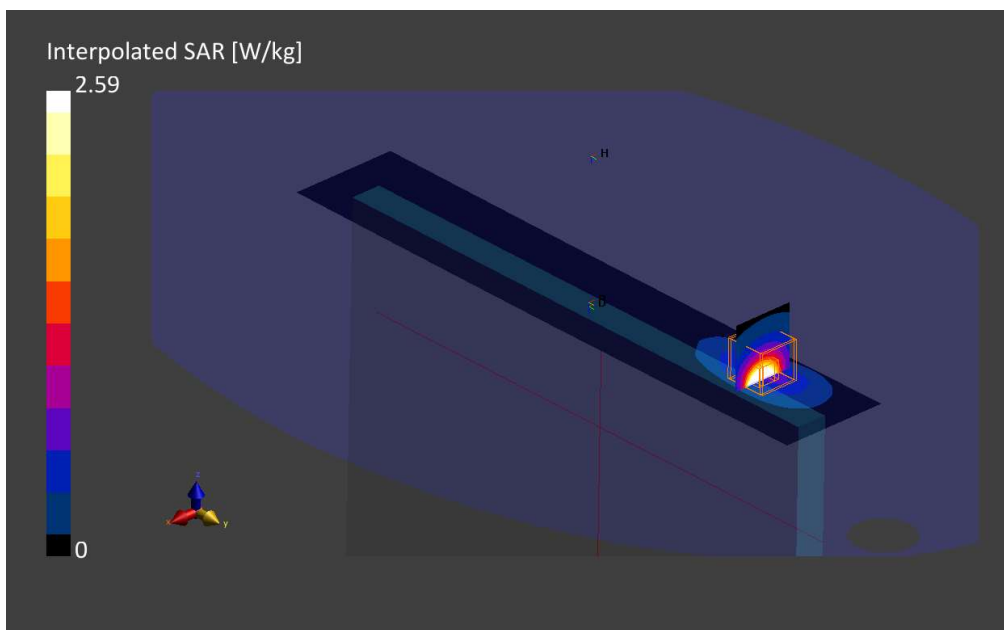
| Phantom                     | TSL, Measured Date          | Probe, Calibration Date     | DAE, Calibration Date   |
|-----------------------------|-----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) | MBBL-600-6000 , 2021-Nov-22 | EX3DV4 - SN3978, 2021-05-21 | DAE4 Sn1429, 2021-05-11 |

##### Scan Setup

|                     | Area Scan         | Zoom Scan          |
|---------------------|-------------------|--------------------|
| Grid Extents [mm]   | 60.0 x 330.0      | 30.0 x 30.0 x 30.0 |
| Grid Steps [mm]     | 15.0 x 15.0       | 4.9 x 4.9 x 1.4    |
| Sensor Surface [mm] | 3.0               | 1.4                |
| Graded Grid         | Yes               | Yes                |
| Grading Ratio       | 1.5               | 1.4                |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA  |
| Surface Detection   | VMS + 6p          | VMS + 6p           |
| Scan Method         | Measured          | Measured           |

##### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2021-11-23, 16:38 | 2021-11-23, 16:47 |
| psSAR1g [W/kg]      | 0.648             | 0.909             |
| psSAR10g[W/kg]      | 0.414             | 0.443             |
| Power Drift [dB]    | 0.00              | 0.04              |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor      |                   |                   |
| TSL Correction [dB] | Positive Only     | Positive Only     |
| M2/M1 [%]           |                   | 67.4              |
| Dist3dBPeak[mm]     |                   | 5.9               |



## 5. LTE Band 7, QPSK - 20MHz, CH20850, Top Edge

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HSN-I46C           | 225.0 x 315.0 x 17.0 | 00017609DK | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band               | Group, UID         | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|--------------------|--------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | EDGE TOP, 0.00               | Band 7, E-UTRA/FDD | LTE-FDD, 10169-CAE | 2535.0, 21100                   | 7.3               | 2.12                   | 50.3             |

### Hardware Setup

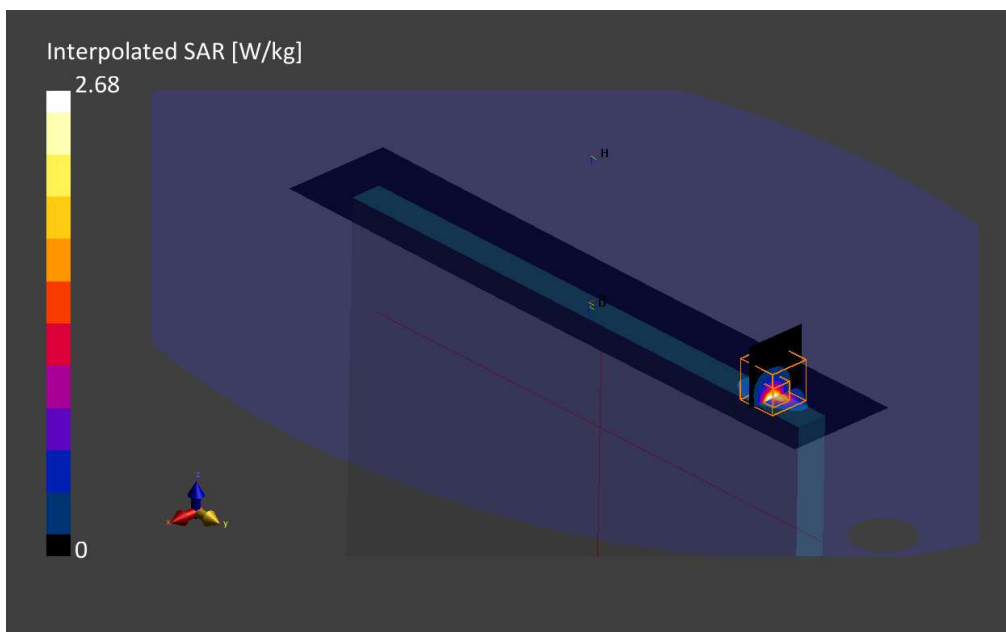
| Phantom                     | TSL, Measured Date         | Probe, Calibration Date     | DAE, Calibration Date   |
|-----------------------------|----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) | MBBL-600-6000, 2021-Nov-22 | EX3DV4 - SN3978, 2021-05-21 | DAE4 Sn1429, 2021-05-11 |

### Scan Setup

|                     | Area Scan         | Zoom Scan          |
|---------------------|-------------------|--------------------|
| Grid Extents [mm]   | 60.0 x 340.0      | 30.0 x 30.0 x 30.0 |
| Grid Steps [mm]     | 10.0 x 10.0       | 4.8 x 4.8 x 1.5    |
| Sensor Surface [mm] | 3.0               | 1.4                |
| Graded Grid         | Yes               | Yes                |
| Grading Ratio       | 1.5               | 1.5                |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA  |
| Surface Detection   | VMS + 6p          | VMS + 6p           |
| Scan Method         | Measured          | Measured           |

### Measurement Results

|                     | Area Scan         | Zoom Scan         |
|---------------------|-------------------|-------------------|
| Date                | 2021-11-22, 18:45 | 2021-11-22, 18:54 |
| psSAR1g [W/kg]      | 1.37              | 1.32              |
| psSAR10g[W/kg]      | 0.477             | 0.461             |
| Power Drift [dB]    | 0.01              | -0.01             |
| Power Scaling       | Disabled          | Disabled          |
| Scaling Factor [dB] |                   |                   |
| TSL Correction      | Positive Only     | Positive Only     |
| M2/M1 [%]           |                   | 72.6              |
| Dist3dBPeak[mm]     |                   | 5.2               |



## 6. LTE Band 12, QPSK - 10MHz, CH23095, Top Edge

### Device under Test Properties

| Name, Manufacturer | Dimensions [mm]      | S/N        | DUT Type       |
|--------------------|----------------------|------------|----------------|
| HSN-I46C           | 225.0 x 315.0 x 17.0 | 00017609DK | Convertible PC |

### Exposure Conditions

| Phantom Section, TSL | Position, Test Distance [mm] | Band                | Group, UID         | Frequency [MHz], Channel Number | Conversion Factor | TSL Conductivity [S/m] | TSL Permittivity |
|----------------------|------------------------------|---------------------|--------------------|---------------------------------|-------------------|------------------------|------------------|
| Flat, MSL            | EDGE TOP, 0.00               | Band 12, E-UTRA/FDD | LTE-FDD, 10175-CAG | 707.5, 23095                    | 10.05             | 0.93                   | 53.6             |

### Hardware Setup

| Phantom                     | TSL, Measured Date         | Probe, Calibration Date     | DAE, Calibration Date   |
|-----------------------------|----------------------------|-----------------------------|-------------------------|
| ELI V8.0 (20deg probe tilt) | MBBL-600-6000, 2021-Nov-22 | EX3DV4 - SN3978, 2021-05-21 | DAE4 Sn1429, 2021-05-11 |

### Scan Setup

|                     | Area Scan         | Zoom Scan          |
|---------------------|-------------------|--------------------|
| Grid Extents [mm]   | 60.0 x 330.0      | 30.0 x 30.0 x 30.0 |
| Grid Steps [mm]     | 15.0 x 15.0       | 6.0 x 6.0 x 1.5    |
| Sensor Surface [mm] | 3.0               | 1.4                |
| Graded Grid         | Yes               | Yes                |
| Grading Ratio       | 1.5               | 1.5                |
| MAIA                | Confirmed by MAIA | Confirmed by MAIA  |
| Surface Detection   | VMS + 6p          | VMS + 6p           |
| Scan Method         | Measured          | Measured           |

### Measurement Results

|                  | Area Scan         | Zoom Scan         |
|------------------|-------------------|-------------------|
| Date             | 2021-11-23, 09:07 | 2021-11-23, 09:13 |
| psSAR1g [W/kg]   | 0.841             | 0.859             |
| psSAR10g [W/kg]  | 0.496             | 0.441             |
| Power Drift [dB] | 0.01              | -0.01             |
| Power Scaling    | Disabled          | Disabled          |
| Scaling Factor   |                   |                   |
| TSL Correction   | Positive Only     | Positive Only     |
| M2/M1 [%]        |                   | 75.1              |
| Dist3dBPeak[mm]  |                   | 8.4               |

