



## **SAR EVALUATION REPORT**

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

*For*  
**Tablet Device**

**FCC ID: BCGA1671  
Model Name: A1671, A1821**

**Report Number: 16U23816-S1V6  
Issue Date: 5/11/2017**

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NVLAP LAB CODE 200065-0

**Revision History**

| Rev. | Date      | Revisions                                                                                                                                                                                                                                                          | Revised By  |
|------|-----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| V1   | 2/22/2017 | Initial Issue                                                                                                                                                                                                                                                      | --          |
| V2   | 3/9/2017  | Report revised based on reviewer's comments:<br>1. Sec. 6.1.: Added Hotspot mode operation to description.<br>2. Sec. 12.: Added notes under Simultaneous Transmission Conditions table.                                                                           | Ray Su      |
| V3   | 3/24/2017 | Report revised based on reviewer's comments:<br>1. Sec. 2.: Updated detect mode statement<br>2. Sec. 6.3.: Added statement.<br>3. Sec. 6.3. & 9: Updated nomenclature from "Body Power" to "Reduced Power"<br>4. Sec. 6.2.: Updated table<br>5. Sec. 9.5.: Updated | Kenneth Mak |
| V4   | 4/13/2017 | Report revised based on reviewer's comments:<br>1. Sec. 10.: Added notes for LTE SAR tables<br>2. Sec. 10.21 & 10.22.: Updated tables                                                                                                                              | Kenneth Mak |
| V5   | 5/9/2017  | Report revised based on reviewer's comments:<br>1. Sec. 10.: Updated notes for LTE SAR tables                                                                                                                                                                      | Kenneth Mak |
| V6   | 5/11/2017 | Report revised based on reviewer's comments:<br>1. Sec. 2.: Updated detect mode statement                                                                                                                                                                          | Kenneth Mak |

## Table of Contents

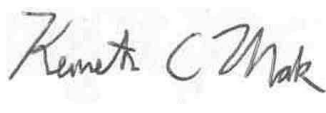
|           |                                                                  |           |
|-----------|------------------------------------------------------------------|-----------|
| <b>1.</b> | <b>Attestation of Test Results .....</b>                         | <b>7</b>  |
| <b>2.</b> | <b>Test Specification, Methods and Procedures.....</b>           | <b>8</b>  |
| <b>3.</b> | <b>Facilities and Accreditation .....</b>                        | <b>8</b>  |
| <b>4.</b> | <b>SAR Measurement System &amp; Test Equipment .....</b>         | <b>9</b>  |
| 4.1.      | SAR Measurement System.....                                      | 9         |
| 4.2.      | SAR Scan Procedures.....                                         | 10        |
| 4.3.      | Test Equipment.....                                              | 12        |
| <b>5.</b> | <b>Measurement Uncertainty.....</b>                              | <b>14</b> |
| <b>6.</b> | <b>Device Under Test (DUT) Information .....</b>                 | <b>15</b> |
| 6.1.      | DUT Description .....                                            | 15        |
| 6.2.      | Wireless Technologies.....                                       | 16        |
| 6.3.      | Nominal and Maximum Output Power from Tune-up Procedure .....    | 17        |
| 6.3.1.    | WLAN SISO.....                                                   | 19        |
| 6.3.2.    | WLAN MIMO .....                                                  | 23        |
| 6.3.3.    | Bluetooth .....                                                  | 27        |
| 6.4.      | General LTE SAR Test and Reporting Considerations.....           | 28        |
| 6.5.      | LTE (TDD) Considerations.....                                    | 31        |
| <b>7.</b> | <b>RF Exposure Conditions (Test Configurations) .....</b>        | <b>32</b> |
| 7.1.      | Standalone SAR Test Exclusion Considerations.....                | 32        |
| 7.2.      | Required Test Configurations .....                               | 36        |
| <b>8.</b> | <b>Dielectric Property Measurements &amp; System Check .....</b> | <b>37</b> |
| 8.1.      | Dielectric Property Measurements .....                           | 37        |
| 8.2.      | System Check.....                                                | 40        |
| <b>9.</b> | <b>Conducted Output Power Measurements.....</b>                  | <b>42</b> |
| 9.1.      | GSM .....                                                        | 42        |
| 9.2.      | W-CDMA .....                                                     | 43        |
| 9.3.      | CDMA.....                                                        | 49        |
| 9.4.      | LTE.....                                                         | 51        |
| 9.5.      | LTE Rel. 11 Carrier Aggregation.....                             | 76        |
| 9.6.      | Wi-Fi SISO.....                                                  | 92        |
| 9.7.      | WLAN MIMO .....                                                  | 93        |
| 9.8.      | Bluetooth .....                                                  | 94        |

|            |                                                      |            |
|------------|------------------------------------------------------|------------|
| <b>10.</b> | <b>Measured and Reported (Scaled) SAR Results</b>    | <b>95</b>  |
| 10.1.      | GSM850                                               | 97         |
| 10.2.      | GSM1900                                              | 97         |
| 10.3.      | W-CDMA Band II                                       | 98         |
| 10.4.      | W-CDMA Band IV                                       | 98         |
| 10.5.      | W-CDMA Band V                                        | 99         |
| 10.6.      | CDMA BC0                                             | 99         |
| 10.7.      | CDMA BC1                                             | 100        |
| 10.8.      | CDMA BC10                                            | 101        |
| 10.9.      | LTE Band 2 (20MHz Bandwidth)                         | 102        |
| 10.10.     | LTE Band 4 (20MHz Bandwidth)                         | 102        |
| 10.11.     | LTE Band 5 (10MHz Bandwidth)                         | 102        |
| 10.12.     | LTE Band 7 (20MHz Bandwidth)                         | 103        |
| 10.13.     | LTE Band 12 (10MHz Bandwidth)                        | 104        |
| 10.14.     | LTE Band 13 (10MHz Bandwidth)                        | 104        |
| 10.15.     | LTE Band 17 (10MHz Bandwidth)                        | 105        |
| 10.16.     | LTE Band 25 (20MHz Bandwidth)                        | 105        |
| 10.17.     | LTE Band 26 (10MHz Bandwidth)                        | 106        |
| 10.18.     | LTE Band 27 (10MHz Bandwidth)                        | 107        |
| 10.19.     | LTE Band 30 (10MHz Bandwidth)                        | 107        |
| 10.20.     | LTE Band 41 (20MHz Bandwidth)                        | 108        |
| 10.21.     | LTE-2CA Band 7 (20MHz + 20MHz BW)                    | 109        |
| 10.22.     | LTE-2CA Band 41 (20MHz + 20MHz BW)                   | 109        |
| 10.23.     | Wi-Fi (DTS Band)                                     | 110        |
| 10.24.     | Wi-Fi (U-NII-1 and U-NII-2A Band)                    | 111        |
| 10.25.     | Wi-Fi (U-NII-2C Band)                                | 112        |
| 10.26.     | Wi-Fi (U-NII-3 Band)                                 | 112        |
| 10.27.     | Bluetooth ( $P_{High}$ )                             | 113        |
| 10.28.     | Bluetooth ( $P_{Low}$ )                              | 113        |
| <b>11.</b> | <b>SAR Measurement Variability</b>                   | <b>114</b> |
| <b>12.</b> | <b>Simultaneous Transmission SAR Analysis</b>        | <b>115</b> |
| 12.1.      | Sum of the SAR for Wi-Fi and BT( $P_{Low}$ )         | 118        |
| 12.2.      | Sum of the SAR for GSM850 (Antenna C), Wi-Fi and BT  | 119        |
| 12.3.      | Sum of the SAR for GSM850 (Antenna D), Wi-Fi and BT  | 119        |
| 12.4.      | Sum of the SAR for GSM1900 (Antenna C), Wi-Fi and BT | 120        |
| 12.5.      | Sum of the SAR for GSM1900 (Antenna D), Wi-Fi and BT | 120        |

|        |                                                                   |     |
|--------|-------------------------------------------------------------------|-----|
| 12.6.  | Sum of the SAR for W-CDMA Band II (Antenna C), Wi-Fi and BT ..... | 121 |
| 12.7.  | Sum of the SAR for W-CDMA Band II (Antenna D), Wi-Fi and BT ..... | 121 |
| 12.8.  | Sum of the SAR for W-CDMA Band IV (Antenna C), Wi-Fi and BT ..... | 122 |
| 12.9.  | Sum of the SAR for W-CDMA Band IV (Antenna D), Wi-Fi and BT ..... | 122 |
| 12.10. | Sum of the SAR for W-CDMA Band V (Antenna C), Wi-Fi and BT .....  | 123 |
| 12.11. | Sum of the SAR for W-CDMA Band V (Antenna D), Wi-Fi and BT .....  | 123 |
| 12.12. | Sum of the SAR for CDMA BC 0 (Antenna C), Wi-Fi and BT .....      | 124 |
| 12.13. | Sum of the SAR for CDMA BC 0 (Antenna D), Wi-Fi and BT .....      | 124 |
| 12.14. | Sum of the SAR for CDMA BC 1 (Antenna C), Wi-Fi and BT .....      | 125 |
| 12.15. | Sum of the SAR for CDMA BC 1 (Antenna D), Wi-Fi and BT .....      | 125 |
| 12.16. | Sum of the SAR for CDMA BC 10 (Antenna C), Wi-Fi and BT .....     | 126 |
| 12.17. | Sum of the SAR for CDMA BC 10 (Antenna D), Wi-Fi and BT .....     | 126 |
| 12.18. | Sum of the SAR for LTE Band 2 (Antenna C), Wi-Fi and BT .....     | 127 |
| 12.19. | Sum of the SAR for LTE Band 2 (Antenna D), Wi-Fi and BT .....     | 127 |
| 12.20. | Sum of the SAR for LTE Band 4 (Antenna C), Wi-Fi and BT .....     | 128 |
| 12.21. | Sum of the SAR for LTE Band 4 (Antenna D), Wi-Fi and BT .....     | 128 |
| 12.22. | Sum of the SAR for LTE Band 5 (Antenna C), Wi-Fi and BT .....     | 129 |
| 12.23. | Sum of the SAR for LTE Band 5 (Antenna D), Wi-Fi and BT .....     | 129 |
| 12.24. | Sum of the SAR for LTE Band 7 (Antenna C), Wi-Fi and BT .....     | 130 |
| 12.25. | Sum of the SAR for LTE Band 7 (Antenna D), Wi-Fi and BT .....     | 130 |
| 12.26. | Sum of the SAR for LTE Band 12 (Antenna C), Wi-Fi and BT .....    | 131 |
| 12.27. | Sum of the SAR for LTE Band 12 (Antenna D), Wi-Fi and BT .....    | 131 |
| 12.28. | Sum of the SAR for LTE Band 13 (Antenna C), Wi-Fi and BT .....    | 132 |
| 12.29. | Sum of the SAR for LTE Band 13 (Antenna D), Wi-Fi and BT .....    | 132 |
| 12.30. | Sum of the SAR for LTE Band 17 (Antenna C), Wi-Fi and BT .....    | 133 |
| 12.31. | Sum of the SAR for LTE Band 17 (Antenna D), Wi-Fi and BT .....    | 133 |
| 12.32. | Sum of the SAR for LTE Band 25 (Antenna C), Wi-Fi and BT .....    | 134 |
| 12.33. | Sum of the SAR for LTE Band 25 (Antenna D), Wi-Fi and BT .....    | 134 |
| 12.34. | Sum of the SAR for LTE Band 26 (Antenna C), Wi-Fi and BT .....    | 135 |
| 12.35. | Sum of the SAR for LTE Band 26 (Antenna D), Wi-Fi and BT .....    | 135 |
| 12.36. | Sum of the SAR for LTE Band 27 (Antenna C), Wi-Fi and BT .....    | 136 |
| 12.37. | Sum of the SAR for LTE Band 27 (Antenna D), Wi-Fi and BT .....    | 136 |
| 12.38. | Sum of the SAR for LTE Band 30 (Antenna C), Wi-Fi and BT .....    | 136 |
| 12.39. | Sum of the SAR for LTE Band 30 (Antenna D), Wi-Fi and BT .....    | 136 |
| 12.40. | Sum of the SAR for LTE Band 41 (Antenna C), Wi-Fi and BT .....    | 136 |
| 12.41. | Sum of the SAR for LTE Band 41 (Antenna D), Wi-Fi and BT .....    | 137 |
| 12.42. | Sum of the SAR for LTE-2CA Band 7 (Antenna C), Wi-Fi and BT ..... | 138 |

|                                                        |                                                                    |            |
|--------------------------------------------------------|--------------------------------------------------------------------|------------|
| 12.43.                                                 | Sum of the SAR for LTE-2CA Band 7 (Antenna D), Wi-Fi and BT .....  | 138        |
| 12.44.                                                 | Sum of the SAR for LTE-2CA Band 41 (Antenna C), Wi-Fi and BT ..... | 138        |
| 12.45.                                                 | Sum of the SAR for LTE-2CA Band 41 (Antenna D), Wi-Fi and BT ..... | 138        |
| <b>Appendixes</b> .....                                |                                                                    | <b>139</b> |
| 16U23816-S1V1 SAR_App A Setup Photos.....              |                                                                    | 139        |
| 16U23816-S1V1 SAR_App B System Check Plots .....       |                                                                    | 139        |
| 16U23816-S1V1 SAR_App C Highest Test Plots .....       |                                                                    | 139        |
| 16U23816-S1V1 SAR_App D Tissue Ingredients .....       |                                                                    | 139        |
| 16U23816-S1V1 SAR_App E Probe Cal. Certificates.....   |                                                                    | 139        |
| 16U23816-S1V1 SAR_App F Dipole Cal. Certificates ..... |                                                                    | 139        |

## 1. Attestation of Test Results

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                   |                                                                                      |      |      |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|------|------|
| Applicant Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | APPLE, INC.                                                                       |                                                                                      |      |      |
| FCC ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | BCGA1671                                                                          |                                                                                      |      |      |
| Model Name                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | A1671, A1821                                                                      |                                                                                      |      |      |
| Applicable Standards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | FCC 47 CFR § 2.1093<br>Published RF exposure KDB procedures<br>IEEE Std 1528-2013 |                                                                                      |      |      |
| Exposure Category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | SAR Limits (W/Kg)<br>Peak spatial-average(1g of tissue)                           |                                                                                      |      |      |
| General population /<br>Uncontrolled exposure                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 1.6                                                                               |                                                                                      |      |      |
| RF Exposure Conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Equipment Class - Highest Reported SAR (W/kg)                                     |                                                                                      |      |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | PCE                                                                               | DTS                                                                                  | NII  | DSS  |
| Standalone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1.19                                                                              | 1.17                                                                                 | 1.19 | 1.16 |
| Simultaneous TX                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1.45                                                                              | 1.30                                                                                 | 1.45 | 1.45 |
| Date Tested                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 12/19/2016 to 1/27/2017; 2/21/2017                                                |                                                                                      |      |      |
| Test Results                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Pass                                                                              |                                                                                      |      |      |
| <p>UL Verification Services Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Verification Services Inc. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.</p> <p><b>Note:</b> The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Verification Services Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Verification Services Inc. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, any agency of the Federal Government, or any agency of any government (NIST Handbook 150, Annex A). This report is written to support regulatory compliance of the applicable standards stated above.</p> |                                                                                   |                                                                                      |      |      |
| Approved & Released By:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                   | Prepared By:                                                                         |      |      |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                   |  |      |      |
| Bobby Bayani<br>Senior Engineer<br>UL Verification Services Inc.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                   | Kenneth C. Mak<br>Laboratory Engineer<br>UL Verification Services Inc.               |      |      |

## 2. Test Specification, Methods and Procedures

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

- 248227 D01 802.11 Wi-Fi SAR v02r02
- 447498 D01 General RF Exposure Guidance v06
- 447498 D03 Supplement C Cross-Reference v01
- 616217 D04 SAR for laptop and tablets v01r02
- 865664 D01 SAR measurement 100 MHz to 6 GHz v01r04
- 865664 D02 RF Exposure Reporting v01r02
- 941225 D01 3G SAR Procedures v03r01
- 941225 D05 SAR for LTE Devices v02r05
- 941225 D06 Hotspot Mode v02r01

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

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

### Additional Guidance: Manufacturer KDB inquiry.

- Carrier Aggregation – KDB guidance to identify test cases with uplink carrier aggregation enabled in conjunction with FCC PAG Guidance for the test cases mentioned in Se. 10.
- Detect Mode – KDB guidance related to SAR testing for proprietary detection mode used to determine proximity to body and set power accordingly for Cellular Transmitters. When the device is held or on the human body, this mechanism will result in the device operating only at the reduced output power values provided in section 6.3.

## 3. Facilities and Accreditation

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

| 47173 Benicia Street | 47266 Benicia Street |
|----------------------|----------------------|
| SAR Lab A            | SAR Lab 1            |
| SAR Lab B            | SAR Lab 2            |
| SAR Lab C            | SAR Lab 3            |
| SAR Lab D            | SAR Lab 4            |
| SAR Lab E            |                      |
| SAR Lab F            |                      |
| SAR Lab G            |                      |
| SAR Lab H            |                      |

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



## 4.2. SAR Scan Procedures

### Step 1: Power Reference Measurement

The Power Reference Measurement and Power Drift Measurements are for monitoring the power drift of the device under test in the batch process. The minimum distance of probe sensors to surface determines the closest measurement point to phantom surface. The minimum distance of probe sensors to surface is 2.1 mm. This distance cannot be smaller than the distance of sensor calibration points to probe tip as defined in the probe properties.

### Step 2: Area Scan

The Area Scan is used as a fast scan in two dimensions to find the area of high field values, before doing a fine measurement around the hot spot. The sophisticated interpolation routines implemented in DASY software can find the maximum locations even in relatively coarse grids. When an Area Scan has measured all reachable points, it computes the field maximal found in the scanned area, within a range of the global maximum. The range (in dB) is specified in the standards for compliance testing. For example, a 2 dB range is required in IEEE Standard 1528 and IEC 62209 standards, whereby 3 dB is a requirement when compliance is assessed in accordance with the ARIB standard (Japan). If only one Zoom Scan follows the Area Scan, then only the absolute maximum will be taken as reference. For cases where multiple maximums are detected, the number of Zoom Scans has to be increased accordingly.

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

|                                                                                                        | $\leq 3$ GHz                                                                                                                                                                                                                                                           | $> 3$ GHz                                              |
|--------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|
| Maximum distance from closest measurement point (geometric center of probe sensors) to phantom surface | $5 \pm 1$ mm                                                                                                                                                                                                                                                           | $\frac{1}{2} \cdot \delta \cdot \ln(2) \pm 0.5$ mm     |
| Maximum probe angle from probe axis to phantom surface normal at the measurement location              | $30^\circ \pm 1^\circ$                                                                                                                                                                                                                                                 | $20^\circ \pm 1^\circ$                                 |
| Maximum area scan spatial resolution: $\Delta x_{Area}$ , $\Delta y_{Area}$                            | $\leq 2$ GHz: $\leq 15$ mm<br>$2 - 3$ GHz: $\leq 12$ mm                                                                                                                                                                                                                | $3 - 4$ GHz: $\leq 12$ mm<br>$4 - 6$ GHz: $\leq 10$ mm |
|                                                                                                        | When the x or y dimension of the test device, in the measurement plane orientation, is smaller than the above, the measurement resolution must be $\leq$ the corresponding x or y dimension of the test device with at least one measurement point on the test device. |                                                        |

**Step 3: Zoom Scan**

Zoom Scans are used to assess the peak spatial SAR values within a cubic averaging volume containing 1 g and 10 g of simulated tissue. The Zoom Scan measures points (refer to table below) within a cube whose base faces are centered on the maxima found in a preceding area scan job within the same procedure. When the measurement is done, the Zoom Scan evaluates the averaged SAR for 1 g and 10 g and displays these values next to the job's label.

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

|                                                                                                                                                                                                                                                                                                             |                                           |                                                                                             | $\leq 3$ GHz                                         | $> 3$ GHz                                                                     |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------------|------------------------------------------------------|-------------------------------------------------------------------------------|
| Maximum zoom scan spatial resolution: $\Delta x_{\text{Zoom}}, \Delta y_{\text{Zoom}}$                                                                                                                                                                                                                      |                                           |                                                                                             | $\leq 2$ GHz: $\leq 8$ mm<br>2 – 3 GHz: $\leq 5$ mm* | 3 – 4 GHz: $\leq 5$ mm*<br>4 – 6 GHz: $\leq 4$ mm*                            |
| Maximum zoom scan spatial resolution, normal to phantom surface                                                                                                                                                                                                                                             | uniform grid: $\Delta z_{\text{Zoom}}(n)$ |                                                                                             | $\leq 5$ mm                                          | 3 – 4 GHz: $\leq 4$ mm<br>4 – 5 GHz: $\leq 3$ mm<br>5 – 6 GHz: $\leq 2$ mm    |
|                                                                                                                                                                                                                                                                                                             | graded grid                               | $\Delta z_{\text{Zoom}}(1)$ : between 1 <sup>st</sup> two points closest to phantom surface | $\leq 4$ mm                                          | 3 – 4 GHz: $\leq 3$ mm<br>4 – 5 GHz: $\leq 2.5$ mm<br>5 – 6 GHz: $\leq 2$ mm  |
|                                                                                                                                                                                                                                                                                                             |                                           | $\Delta z_{\text{Zoom}}(n>1)$ : between subsequent points                                   | $\leq 1.5 \cdot \Delta z_{\text{Zoom}}(n-1)$         |                                                                               |
| Minimum zoom scan volume                                                                                                                                                                                                                                                                                    | x, y, z                                   |                                                                                             | $\geq 30$ mm                                         | 3 – 4 GHz: $\geq 28$ mm<br>4 – 5 GHz: $\geq 25$ mm<br>5 – 6 GHz: $\geq 22$ mm |
| Note: $\delta$ is the penetration depth of a plane-wave at normal incidence to the tissue medium; see draft standard IEEE P1528-2011 for details.                                                                                                                                                           |                                           |                                                                                             |                                                      |                                                                               |
| * When zoom scan is required and the <u>reported</u> SAR from the <i>area scan based 1-g SAR estimation</i> procedures of KDB 447498 is $\leq 1.4$ W/kg, $\leq 8$ mm, $\leq 7$ mm and $\leq 5$ mm zoom scan resolution may be applied, respectively, for 2 GHz to 3 GHz, 3 GHz to 4 GHz and 4 GHz to 6 GHz. |                                           |                                                                                             |                                                      |                                                                               |

**Step 4: Power drift measurement**

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

**Step 5: Z-Scan (FCC only)**

The Z Scan measures points along a vertical straight line. The line runs along the Z-axis of a one-dimensional grid. In order to get a reasonable extrapolation the extrapolated distance should not be larger than the step size in Z-direction.

### 4.3. Test Equipment

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

#### Dielectric Property Measurements

| Name of Equipment    | Manufacturer                      | Type/Model    | Serial No.    | Cal. Due Date |
|----------------------|-----------------------------------|---------------|---------------|---------------|
| Network Analyzer     | Agilent                           | 8753ES        | MY40000980    | 4/27/2017     |
| Dielectric Probe kit | SPEAG                             | DAK-3.5       | 1103          | 2/23/2017     |
| Dielectric Probe kit | SPEAG                             | DAK-3.5       | 1087          | 11/8/2017     |
| Shorting block       | SPEAG                             | DAK-3.5 Short | SM DAK 200 BA | N/A           |
| Thermometer          | Traceable Calibration Control Co. | 4242          | 140493798     | 8/9/2017      |

#### System Check

| Name of Equipment            | Manufacturer | Type/Model             | Serial No.  | Cal. Due Date |
|------------------------------|--------------|------------------------|-------------|---------------|
| Synthesized Signal Generator | Agilent      | N5181A                 | MY50140610  | 5/9/2017      |
| Power Meter                  | Keysight     | N1912A                 | MY55196008  | 5/3/2017      |
| Power Sensor                 | Agilent      | N1912A                 | MY52200012  | 10/17/2017    |
| Power Sensor                 | Agilent      | E9323A                 | MY53070009  | 6/13/2017     |
| Amplifier                    | MITEQ        | AMF-4D-00400600-50-30P | 1795093     | N/A           |
| Directional coupler          | Werlatone    | C8060-102              | 2149        | N/A           |
| DC Power Supply              | BK PRECISION | 1161                   | 215-02292   | N/A           |
| Synthesized Signal Generator | Agilent      | N5181A                 | MY50140630  | 5/9/2017      |
| Power Meter                  | Keysight     | N1912A                 | MY55196009  | 5/3/2017      |
| Power Sensor                 | Agilent      | N1912A                 | MY53260001  | 10/17/2017    |
| Power Sensor                 | Agilent      | E9323A                 | MY53070002  | 3/22/2017     |
| Amplifier                    | MITEQ        | AMF-4D-00400600-50-30P | 1795092     | N/A           |
| Directional coupler          | Werlatone    | C8060-102              | 2141        | N/A           |
| DC Power Supply              | HP           | 6296A                  | 2841A-05955 | N/A           |
| Synthesized Signal Generator | HP           | 8665B                  | 3546A00784  | 9/2/2017      |
| Power Meter                  | HP           | 437B                   | 3125U11347  | 8/30/2017     |
| Power Meter                  | HP           | 437B                   | 3125U09516  | 9/27/2017     |
| Power Sensor                 | HP           | 8481A                  | 1926A16917  | 10/7/2017     |
| Power Sensor                 | HP           | 8481A                  | 2702A76223  | 9/14/2017     |
| Amplifier                    | MITEQ        | AMF-4D-00400600-50-30P | 1808938     | N/A           |
| Directional coupler          | Werlatone    | C8060-102              | 2710        | N/A           |
| DC Power Supply              | HP           | E3610A                 | KR24104150  | N/A           |

**Lab Equipment**

| Name of Equipment                        | Manufacturer | Type/Model | Serial No. | Cal. Due Date |
|------------------------------------------|--------------|------------|------------|---------------|
| E-Field Probe (SAR Lab A)                | SPEAG        | EX3DV4     | 3885       | 9/20/2017     |
| E-Field Probe (SAR Lab B)                | SPEAG        | EX3DV4     | 3991       | 5/12/2017     |
| E-Field Probe (SAR Lab C)                | SPEAG        | EX3DV4     | 3902       | 5/17/2017     |
| E-Field Probe (SAR Lab D)                | SPEAG        | EX3DV4     | 3936       | 7/26/2017     |
| E-Field Probe (SAR Lab E)                | SPEAG        | EX3DV4     | 7335       | 3/22/2017     |
| E-Field Probe (SAR Lab F)                | SPEAG        | EX3DV4     | 3686       | 8/25/2017     |
| E-Field Probe (SAR Lab G)                | SPEAG        | EX3DV4     | 3990       | 3/22/2017     |
| E-Field Probe (SAR Lab H)                | SPEAG        | EX3DV4     | 3929       | 3/22/2017     |
| Data Acquisition Electronics (SAR Lab A) | SPEAG        | DAE4       | 1439       | 7/25/2017     |
| Data Acquisition Electronics (SAR Lab B) | SPEAG        | DAE4       | 1257       | 9/15/2017     |
| Data Acquisition Electronics (SAR Lab C) | SPEAG        | DAE3       | 500        | 5/19/2017     |
| Data Acquisition Electronics (SAR Lab D) | SPEAG        | DAE4       | 1433       | 3/17/2017     |
| Data Acquisition Electronics (SAR Lab E) | SPEAG        | DAE4       | 1472       | 3/24/2017     |
| Data Acquisition Electronics (SAR Lab F) | SPEAG        | DAE4       | 1377       | 9/14/2017     |
| Data Acquisition Electronics (SAR Lab G) | SPEAG        | DAE4       | 1380       | 7/25/2017     |
| Data Acquisition Electronics (SAR Lab H) | SPEAG        | DAE4       | 1434       | 4/15/2017     |
| System Validation Dipole                 | SPEAG        | D750V3     | 1019       | 3/16/2017     |
| System Validation Dipole                 | SPEAG        | D835V2     | 4d002      | 11/8/2017     |
| System Validation Dipole                 | SPEAG        | D835V2     | 4d142      | 9/22/2017     |
| System Validation Dipole                 | SPEAG        | D1750V2    | 1050       | 4/13/2017     |
| System Validation Dipole                 | SPEAG        | D1900V2    | 5d140      | 4/12/2017     |
| System Validation Dipole                 | SPEAG        | D1900V2    | 5d043      | 11/9/2017     |
| System Validation Dipole                 | SPEAG        | D1900V2    | 5d163      | 9/19/2017     |
| System Validation Dipole                 | SPEAG        | D2450V2    | 706        | 5/10/2017     |
| System Validation Dipole                 | SPEAG        | D2450V2    | 899        | 3/15/2017     |
| System Validation Dipole                 | SPEAG        | D2600V2    | 1036       | 3/18/2017     |
| System Validation Dipole                 | SPEAG        | D2600V2    | 1006       | 9/13/2017     |
| System Validation Dipole                 | SPEAG        | D5GHzV2    | 1003       | 2/25/2017     |
| System Validation Dipole                 | SPEAG        | D5GHzV2    | 1138       | 9/22/2017     |
| System Validation Dipole                 | SPEAG        | D5GHzV2    | 1168       | 11/14/2017    |

**Other**

| Name of Equipment      | Manufacturer | Type/Model | Serial No. | Cal. Due Date |
|------------------------|--------------|------------|------------|---------------|
| Power Meter            | Keysight     | N1912A     | MY55196004 | 7/8/2017      |
| Power Sensor           | Agilent      | N1921A     | MY53020038 | 3/22/2017     |
| Power Sensor           | Agilent      | N1921A     | MY53260010 | 8/23/2017     |
| Power Meter            | Keysight     | N1912A     | My55196007 | 7/8/2017      |
| Power Sensor           | Agilent      | N1921A     | MY55200002 | 3/22/2017     |
| Power Sensor           | Agilent      | N1921A     | MY52200012 | 10/17/2017    |
| Base Station Simulator | R & S        | CMW500     | 134851     | 3/2/2017      |
| Base Station Simulator | R & S        | CMW500     | 135390     | 4/13/2017     |
| Base Station Simulator | R & S        | CMW500     | 137875     | 7/1/2017      |
| Base Station Simulator | R & S        | CMW500     | 134855     | 5/26/2017     |
| Base Station Simulator | R & S        | CMW500     | 134852     | 5/26/2017     |
| Base Station Simulator | R & S        | CMW500     | 135393     | 3/21/2017     |
| Base Station Simulator | R & S        | CMW500     | 147543     | 4/15/2017     |
| Base Station Simulator | R & S        | CMW500     | 104245     | 1/28/2017     |
| Base Station Simulator | R & S        | CMW500     | 124593     | 7/26/2017     |

## 5. Measurement Uncertainty

Per KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz, when the highest measured 1-g SAR within a frequency band is  $< 1.5$  W/kg and the measured 10-g SAR within a frequency band is  $< 3.75$  W/kg, the extensive SAR measurement uncertainty analysis described in IEEE Std 1528-2013 is not required in SAR reports submitted for equipment approval.

## 6. Device Under Test (DUT) Information

### 6.1. DUT Description

Model A1671, A1821 is a tablet with multimedia functions (music, application support, and video)

Cellular GSM/GPRS/EGPRS/CDMA2000 1xRTT/1xAdvanced/EVDO Rev.A/WCDMA/HSPA+/DC-HSDPA/LTE FDD/TDD/TD-SCDMA radio

IEEE 802.11a/b/g/n/ac radio (MIMO 2x2) and Bluetooth radio

The device has multiple Wi-Fi / Bluetooth antennas; Wi-Fi transmits out of two antennas, Antenna A and Antenna B, while Bluetooth transmits just out of Antenna A.

There are two suppliers of the Wi-Fi/Bluetooth radio modules to support the production volumes of the device. The two variants are referenced in this report as:

Variant 1 = Wi-Fi/BT module supplier 1

Variant 2 = Wi-Fi/BT module supplier 2

The Wi-Fi/Bluetooth radio modules have the same mechanical outline (e.g., the same package dimension and pin-out layout), use the same on-board antenna matching circuit, have an identical antenna structure, and are built and tested to conform to the same specifications and to operate within the same tolerances.

Complete SAR evaluation is performed on the device with one Wi-Fi/Bluetooth radio module, and then the test is repeated on the device with the other Wi-Fi/Bluetooth module at the highest SAR value.

Both Model A1671 and A1821 have identical PCB layout, design and functionality, except that A1671 supports second electronic-UICC based SIM or "soft SIM" (called eSIM) beside the regular UICC based SIM and A1821 will come with eSIM removed. RF and electromagnetic characteristic are independent of the eSIM element. Both Models have exactly same technology and band support. Model A1671 is used for SAR Testing and that data will be used for both Models.

|                           |                                                                                                                                                                                                                                              |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Device Dimension          | Overall (Length x Width): 305.7 mm x 220.6 mm<br>Overall Diagonal: 368.9 mm<br>Display Diagonal: 327.66 mm                                                                                                                                   |
| Back Cover                | <input checked="" type="checkbox"/> The rechargeable battery is not user accessible.                                                                                                                                                         |
| Battery Options           | <input checked="" type="checkbox"/> The rechargeable battery is not user accessible.                                                                                                                                                         |
| Wireless Router (Hotspot) | Wi-Fi Hotspot mode permits the device to share its cellular data connection with other Wi-Fi-enabled devices.<br><input checked="" type="checkbox"/> Mobile Hotspot (Wi-Fi 2.4 GHz)<br><input type="checkbox"/> Mobile Hotspot (Wi-Fi 5 GHz) |
| AirPlay                   | AirPlay mode enabled devices transfer data directly between each other<br><input checked="" type="checkbox"/> AirPlay (Wi-Fi 2.4 GHz)<br><input checked="" type="checkbox"/> AirPlay (Wi-Fi 5 GHz)                                           |

## 6.2. Wireless Technologies

| Wireless technologies | Frequency bands                                                                                                                                                              | Operating mode                                                                                                               |                                                                                                                                          | Duty Cycle used for SAR testing                            |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| GSM                   | 850<br>1900                                                                                                                                                                  | Voice (GMSK)<br>GPRS (GMSK)<br>EGPRS (8PSK)                                                                                  | GPRS Multi-Slot Class:<br><input type="checkbox"/> Class 8 - 1 Up, 4 Down<br><input checked="" type="checkbox"/> Class 10 - 2 Up, 4 Down | GSM Voice: 12.5%<br>(E)GPRS: 1 Slot: 12.5%<br>2 Slots: 25% |
|                       | Does this device support DTM (Dual Transfer Mode)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                       |                                                                                                                              |                                                                                                                                          |                                                            |
| CDMA (CDMA2000)       | BC0<br>BC1<br>BC10                                                                                                                                                           | 1xRTT (Voice & Data)<br>1xEV-DO Rel. 0<br>1xEV-DO Rev. A<br>1xAdvanced                                                       |                                                                                                                                          | 100%                                                       |
|                       | Does this device support SV-DO (1xRTT-1xEVDO)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                           |                                                                                                                              |                                                                                                                                          |                                                            |
| W-CDMA (UMTS)         | Band II<br>Band IV<br>Band V                                                                                                                                                 | UMTS Rel. 99 (Voice & Data)<br>HSDPA (Rel. 5)<br>HSUPA (Rel. 6)<br>DC-HSDPA (Rel. 8)<br>HSPA+ (Rel. 7)                       |                                                                                                                                          | 100%                                                       |
|                       |                                                                                                                                                                              |                                                                                                                              |                                                                                                                                          |                                                            |
| LTE                   | FDD Band 2<br>FDD Band 4<br>FDD Band 5<br>FDD Band 7<br>FDD Band 12<br>FDD Band 13<br>FDD Band 17<br>FDD Band 25<br>FDD Band 26<br>FDD Band 27<br>FDD Band 30<br>TDD Band 41 | QPSK<br>16QAM<br><input checked="" type="checkbox"/> Rel. 11 Carrier Aggregation (2 Uplinks and 3 Downlinks), UE Category 10 |                                                                                                                                          | 100% (FDD)<br>63.3% (TDD)                                  |
|                       | Does this device support SV-LTE (1xRTT-LTE)? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                                             |                                                                                                                              |                                                                                                                                          |                                                            |
| Wi-Fi                 | 2.4 GHz                                                                                                                                                                      | 802.11b<br>802.11g<br>802.11n (HT20)                                                                                         |                                                                                                                                          | 100%                                                       |
|                       | 5 GHz                                                                                                                                                                        | 802.11a<br>802.11n (HT20)<br>802.11n (HT40)<br>802.11ac (VHT20)<br>802.11ac (VHT40)<br>802.11ac (VHT80)                      |                                                                                                                                          | 100%                                                       |
|                       | Does this device support bands 5.60 ~ 5.65 GHz? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                          |                                                                                                                              |                                                                                                                                          |                                                            |
|                       | Does this device support Band gap channel? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No                                                               |                                                                                                                              |                                                                                                                                          |                                                            |
| Bluetooth             | 2.4 GHz                                                                                                                                                                      | Version 4.2 LE                                                                                                               |                                                                                                                                          | 77.5% (DH5)                                                |

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

KDB 447498 sec.4.1.(3) at the maximum rated output power and within the tune-up tolerance range specified for the product, but not more than 2 dB lower than the maximum tune-up tolerance limit.

The selection between max and reduced output power is based on the body-detect mechanism as described in the Manufacturer KDB Inquiry – Detect Mode (It is also fully described in the Operational Description).

| RF Air interface | Mode                | Max. RF Output Power (dBm) |       |           |       | Reduced RF Output Power (dBm) |       |           |       |
|------------------|---------------------|----------------------------|-------|-----------|-------|-------------------------------|-------|-----------|-------|
|                  |                     | Antenna C                  |       | Antenna D |       | Antenna C                     |       | Antenna D |       |
|                  |                     | Burst                      | Frame | Burst     | Frame | Burst                         | Frame | Burst     | Frame |
| GSM850           | Voice/GPRS (1 slot) | 33.5                       | 24.5  | 32.0      | 23.0  | 28.0                          | 19.0  | 27.0      | 18.0  |
|                  | GPRS 2 slots        | 32.5                       | 26.5  | 31.0      | 25.0  | 25.0                          | 19.0  | 24.0      | 18.0  |
|                  | EGPRS 1 slot        | 29.0                       | 20.0  | 27.0      | 18.0  | 28.0                          | 19.0  | 27.0      | 18.0  |
|                  | EGPRS 2 slots       | 29.0                       | 23.0  | 27.0      | 21.0  | 25.0                          | 19.0  | 24.0      | 18.0  |
| GSM1900          | Voice/GPRS (1 slot) | 29.5                       | 20.5  | 27.5      | 18.5  | 22.0                          | 13.0  | 23.8      | 14.8  |
|                  | GPRS 2 slots        | 29.5                       | 23.5  | 26.5      | 20.5  | 19.0                          | 13.0  | 20.8      | 14.8  |
|                  | EGPRS 1 slot        | 28.0                       | 19.0  | 25.0      | 16.0  | 22.0                          | 13.0  | 23.8      | 14.8  |
|                  | EGPRS 2 slots       | 28.0                       | 22.0  | 22.6      | 16.6  | 19.0                          | 13.0  | 20.8      | 14.8  |

| RF Air interface | Mode          | Max. RF Output Power (dBm) |           | Reduced RF Output Power (dBm) |           |
|------------------|---------------|----------------------------|-----------|-------------------------------|-----------|
|                  |               | Antenna C                  | Antenna D | Antenna C                     | Antenna D |
| W-CDMA Band II   | R99           | 25.5                       | 24.5      | 12.6                          | 14.2      |
|                  | HSDPA         | 25.5                       | 24.5      | 12.6                          | 14.2      |
|                  | HSUPA         | 25.5                       | 24.5      | 12.6                          | 14.2      |
|                  | DC-HSDPA      | 25.5                       | 24.5      | 12.6                          | 14.2      |
| W-CDMA Band IV   | R99           | 25.5                       | 25.5      | 13.0                          | 13.7      |
|                  | HSDPA         | 25.5                       | 25.5      | 13.0                          | 13.7      |
|                  | HSUPA         | 25.5                       | 25.5      | 13.0                          | 13.7      |
|                  | DC-HSDPA      | 25.5                       | 25.5      | 13.0                          | 13.7      |
| W-CDMA Band V    | R99           | 25.5                       | 25.0      | 18.8                          | 17.2      |
|                  | HSDPA         | 25.5                       | 25.0      | 18.8                          | 17.2      |
|                  | HSUPA         | 25.5                       | 25.0      | 18.8                          | 17.2      |
|                  | DC-HSDPA      | 25.5                       | 25.0      | 18.8                          | 17.2      |
| CDMA BC0         | 1xRTT         | 24.5                       | 24.0      | 18.8                          | 17.2      |
|                  | 1xAdvanced    | 24.5                       | 24.0      | 18.8                          | 17.2      |
|                  | 1xEVDO Rel. 0 | 24.5                       | 24.0      | 18.8                          | 17.2      |
|                  | 1xEVDO Rev. A | 24.5                       | 24.0      | 18.8                          | 17.2      |
| CDMA BC1         | 1xRTT         | 26.0                       | 23.5      | 12.6                          | 14.2      |
|                  | 1xAdvanced    | 26.0                       | 23.5      | 12.6                          | 14.2      |
|                  | 1xEVDO Rel. 0 | 26.0                       | 23.5      | 12.6                          | 14.2      |
|                  | 1xEVDO Rev. A | 26.0                       | 23.5      | 12.6                          | 14.2      |
| CDMA BC10        | 1xRTT         | 26.0                       | 24.0      | 18.5                          | 17.2      |
|                  | 1xAdvanced    | 26.0                       | 24.0      | 18.5                          | 17.2      |
|                  | 1xEVDO Rel. 0 | 26.0                       | 24.0      | 18.5                          | 17.2      |
|                  | 1xEVDO Rev. A | 26.0                       | 24.0      | 18.5                          | 17.2      |
| LTE Band 2       | QPSK          | 25.0                       | 22.5      | 12.6                          | 14.2      |
| LTE Band 4       | QPSK          | 25.0                       | 23.5      | 13.0                          | 13.7      |
| LTE Band 5       | QPSK          | 25.0                       | 24.0      | 18.8                          | 18.5      |
| LTE Band 7       | QPSK          | 25.0                       | 23.5      | 13.0                          | 13.7      |
| LTE Band 12      | QPSK          | 25.0                       | 23.0      | 20.2                          | 18.0      |
| LTE Band 13      | QPSK          | 24.5                       | 23.0      | 19.2                          | 18.0      |
| LTE Band 17      | QPSK          | 25.0                       | 23.0      | 20.2                          | 18.0      |
| LTE Band 25      | QPSK          | 25.0                       | 22.5      | 12.6                          | 14.2      |
| LTE Band 26      | QPSK          | 25.0                       | 24.0      | 18.8                          | 18.5      |
| LTE Band 27      | QPSK          | 24.0                       | 22.0      | 18.5                          | 18.5      |
| LTE Band 30      | QPSK          | 22.5                       | 22.0      | 13.5                          | 12.8      |
| LTE Band 41      | QPSK          | 23.0                       | 22.0      | 14.7                          | 14.5      |
| LTE-2CA Band 7   | QPSK          | 23.0                       | 21.0      | 11.0                          | 11.2      |
| LTE-2CA Band 41  | QPSK          | 21.5                       | 21.0      | 13.2                          | 13.5      |

**6.3.1. WLAN SISO**

| Band (GHz) | Mode    | No. of Transmitters | Ch # | Freq. (MHz) | Max RF Output Power (dBm) |           | SAR Test (Yes/No) |
|------------|---------|---------------------|------|-------------|---------------------------|-----------|-------------------|
|            |         |                     |      |             | Antenna A                 | Antenna B |                   |
| 2.4        | 802.11b | 1 Tx                | 1    | 2412        | 16.0                      | 16.0      | Yes               |
|            |         |                     | 6    | 2437        | 16.0                      | 16.0      |                   |
|            |         |                     | 11   | 2462        | 16.0                      | 16.0      |                   |
|            |         |                     | 12   | 2467        | 16.0                      | 16.0      |                   |
|            |         |                     | 13   | 2472        | 14.5                      | 14.5      |                   |
|            | 802.11g | 1 Tx                | 1    | 2412        | 16.0                      | 16.0      | No                |
|            |         |                     | 6    | 2437        | 16.0                      | 16.0      |                   |
|            |         |                     | 10   | 2457        | 16.0                      | 16.0      |                   |
|            |         |                     | 11   | 2462        | 13.5                      | 13.5      |                   |
|            |         |                     | 12   | 2467        | 11.5                      | 11.5      |                   |
|            |         |                     | 13   | 2472        | 1.5                       | 1.5       |                   |
|            | 802.11n | 1 Tx HT20           | 1    | 2412        | 16.0                      | 16.0      | No                |
|            |         |                     | 6    | 2437        | 16.0                      | 16.0      |                   |
|            |         |                     | 10   | 2457        | 16.0                      | 16.0      |                   |
|            |         |                     | 11   | 2462        | 13.5                      | 13.5      |                   |
|            |         |                     | 12   | 2467        | 11.5                      | 11.5      |                   |
|            |         |                     | 13   | 2472        | 1.5                       | 1.5       |                   |

| Band (GHz) | Mode     | No. of Transmitters | Ch # | Freq. (MHz) | Max RF Output Power (dBm) |           | SAR Test (Yes/No) |
|------------|----------|---------------------|------|-------------|---------------------------|-----------|-------------------|
|            |          |                     |      |             | Antenna A                 | Antenna B |                   |
| 5.2        | 802.11a  | 1 Tx                | 36   | 5180        | 16.0                      | 16.0      | No                |
|            |          |                     | 40   | 5200        | 17.0                      | 16.0      |                   |
|            |          |                     | 44   | 5220        | 17.0                      | 16.0      |                   |
|            |          |                     | 48   | 5240        | 17.0                      | 16.0      |                   |
|            | 802.11n  | 1 Tx HT20           | 36   | 5180        | 16.0                      | 16.0      | No                |
|            |          |                     | 40   | 5200        | 17.0                      | 16.0      |                   |
|            |          |                     | 44   | 5220        | 17.0                      | 16.0      |                   |
|            |          |                     | 48   | 5240        | 17.0                      | 16.0      |                   |
|            |          | 1 Tx HT40           | 38   | 5190        | 14.0                      | 14.0      | Yes               |
|            |          |                     | 46   | 5230        | 17.0                      | 16.0      |                   |
|            | 802.11ac | 1 Tx VHT20          | 36   | 5180        | 16.0                      | 16.0      | No                |
|            |          |                     | 40   | 5200        | 17.0                      | 16.0      |                   |
|            |          |                     | 44   | 5220        | 17.0                      | 16.0      |                   |
|            |          |                     | 48   | 5240        | 17.0                      | 16.0      |                   |
|            |          | 1 Tx VHT40          | 38   | 5190        | 14.0                      | 14.0      | No                |
|            |          |                     | 46   | 5230        | 17.0                      | 16.0      |                   |
|            |          | 1 Tx VHT80          | 42   | 5210        | 13.5                      | 13.5      | No                |

**Note(s):**

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

| Band (GHz) | Mode     | No. of Transmitters | Ch # | Freq. (MHz) | Max RF Output Power (dBm) |           | SAR Test (Yes/No) |
|------------|----------|---------------------|------|-------------|---------------------------|-----------|-------------------|
|            |          |                     |      |             | Antenna A                 | Antenna B |                   |
| 5.3        | 802.11a  | 1 Tx                | 52   | 5260        | 16.0                      | 16.0      | No                |
|            |          |                     | 56   | 5280        | 16.0                      | 16.0      |                   |
|            |          |                     | 60   | 5300        | 16.0                      | 16.0      |                   |
|            |          |                     | 64   | 5320        | 16.0                      | 16.0      |                   |
|            | 802.11n  | 1 Tx HT20           | 52   | 5260        | 16.0                      | 16.0      | No                |
|            |          |                     | 56   | 5280        | 16.0                      | 16.0      |                   |
|            |          |                     | 60   | 5300        | 16.0                      | 16.0      |                   |
|            |          |                     | 64   | 5320        | 16.0                      | 16.0      |                   |
|            |          | 1 Tx HT40           | 54   | 5270        | 16.0                      | 16.0      | Yes               |
|            |          |                     | 62   | 5310        | 14.0                      | 14.0      |                   |
|            | 802.11ac | 1 Tx VHT20          | 52   | 5260        | 16.0                      | 16.0      | No                |
|            |          |                     | 56   | 5280        | 16.0                      | 16.0      |                   |
|            |          |                     | 60   | 5300        | 16.0                      | 16.0      |                   |
|            |          |                     | 64   | 5320        | 16.0                      | 16.0      |                   |
|            |          | 1 Tx VHT40          | 54   | 5270        | 16.0                      | 16.0      | No                |
|            |          |                     | 62   | 5310        | 14.0                      | 14.0      |                   |
|            |          | 1 Tx VHT80          | 58   | 5290        | 13.5                      | 13.5      | No                |

**Note(s):**

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

| Band (GHz) | Mode     | No. of Transmitters | Ch # | Freq. (MHz) | Max RF Output Power (dBm) |           | SAR Test (Yes/No) |
|------------|----------|---------------------|------|-------------|---------------------------|-----------|-------------------|
|            |          |                     |      |             | Antenna A                 | Antenna B |                   |
| 5.5        | 802.11a  | 1 Tx                | 100  | 5500        | 15.0                      | 15.0      | No                |
|            |          |                     | 104  | 5520        | 15.0                      | 15.0      |                   |
|            |          |                     | 108  | 5540        | 15.0                      | 15.0      |                   |
|            |          |                     | 112  | 5560        | 15.0                      | 15.0      |                   |
|            |          |                     | 116  | 5580        | 15.0                      | 15.0      |                   |
|            |          |                     | 120  | 5600        | 15.0                      | 15.0      |                   |
|            |          |                     | 124  | 5620        | 15.0                      | 15.0      |                   |
|            |          |                     | 128  | 5640        | 15.0                      | 15.0      |                   |
|            |          |                     | 132  | 5660        | 15.0                      | 15.0      |                   |
|            |          |                     | 136  | 5680        | 15.0                      | 15.0      |                   |
|            |          |                     | 140  | 5700        | 15.0                      | 15.0      |                   |
|            |          |                     | 144  | 5720        | 15.0                      | 15.0      |                   |
|            | 802.11n  | 1 Tx HT20           | 100  | 5500        | 15.0                      | 15.0      | No                |
|            |          |                     | 104  | 5520        | 15.0                      | 15.0      |                   |
|            |          |                     | 108  | 5540        | 15.0                      | 15.0      |                   |
|            |          |                     | 112  | 5560        | 15.0                      | 15.0      |                   |
|            |          |                     | 116  | 5580        | 15.0                      | 15.0      |                   |
|            |          |                     | 120  | 5600        | 15.0                      | 15.0      |                   |
|            |          |                     | 124  | 5620        | 15.0                      | 15.0      |                   |
|            |          |                     | 128  | 5640        | 15.0                      | 15.0      |                   |
|            |          |                     | 132  | 5660        | 15.0                      | 15.0      |                   |
|            |          |                     | 136  | 5680        | 15.0                      | 15.0      |                   |
|            |          |                     | 140  | 5700        | 15.0                      | 15.0      |                   |
|            |          |                     | 144  | 5720        | 15.0                      | 15.0      |                   |
|            |          | 1 Tx HT40           | 102  | 5510        | 14.5                      | 14.5      | No                |
|            |          |                     | 110  | 5550        | 15.0                      | 15.0      |                   |
|            |          |                     | 118  | 5590        | 15.0                      | 15.0      |                   |
|            |          |                     | 126  | 5630        | 15.0                      | 15.0      |                   |
|            |          |                     | 134  | 5670        | 15.0                      | 15.0      |                   |
|            |          |                     | 142  | 5710        | 15.0                      | 15.0      |                   |
|            | 802.11ac | 1 Tx VHT20          | 100  | 5500        | 15.0                      | 15.0      | No                |
|            |          |                     | 104  | 5520        | 15.0                      | 15.0      |                   |
|            |          |                     | 108  | 5540        | 15.0                      | 15.0      |                   |
|            |          |                     | 112  | 5560        | 15.0                      | 15.0      |                   |
|            |          |                     | 116  | 5580        | 15.0                      | 15.0      |                   |
|            |          |                     | 120  | 5600        | 15.0                      | 15.0      |                   |
|            |          |                     | 124  | 5620        | 15.0                      | 15.0      |                   |
|            |          |                     | 128  | 5640        | 15.0                      | 15.0      |                   |
|            |          |                     | 132  | 5660        | 15.0                      | 15.0      |                   |
|            |          |                     | 136  | 5680        | 15.0                      | 15.0      |                   |
|            |          |                     | 140  | 5700        | 15.0                      | 15.0      |                   |
|            |          |                     | 144  | 5720        | 15.0                      | 15.0      |                   |
|            |          | 1 Tx VHT40          | 102  | 5510        | 14.5                      | 14.5      | No                |
|            |          |                     | 110  | 5550        | 15.0                      | 15.0      |                   |
|            |          |                     | 118  | 5590        | 15.0                      | 15.0      |                   |
|            |          |                     | 126  | 5630        | 15.0                      | 15.0      |                   |
|            |          |                     | 134  | 5670        | 15.0                      | 15.0      |                   |
|            |          |                     | 142  | 5710        | 15.0                      | 15.0      |                   |
|            |          | 1 Tx VHT80          | 106  | 5530        | 13.0                      | 13.0      | Yes               |
|            |          |                     | 122  | 5610        | 15.0                      | 15.0      |                   |
|            |          |                     | 138  | 5690        | 15.0                      | 15.0      |                   |

**Note(s):**

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

| Band (GHz) | Mode     | No. of Transmitters | Ch # | Freq. (MHz) | Max RF Output Power (dBm) |           | SAR Test (Yes/No) |
|------------|----------|---------------------|------|-------------|---------------------------|-----------|-------------------|
|            |          |                     |      |             | Antenna A                 | Antenna B |                   |
| 5.8        | 802.11a  | 1 Tx                | 149  | 5745        | 15.0                      | 15.5      | No                |
|            |          |                     | 153  | 5765        | 15.0                      | 15.5      |                   |
|            |          |                     | 157  | 5785        | 15.0                      | 15.5      |                   |
|            |          |                     | 161  | 5805        | 15.0                      | 15.5      |                   |
|            |          |                     | 165  | 5825        | 15.0                      | 15.5      |                   |
|            | 802.11n  | 1 Tx HT20           | 149  | 5745        | 15.0                      | 15.5      | No                |
|            |          |                     | 153  | 5765        | 15.0                      | 15.5      |                   |
|            |          |                     | 157  | 5785        | 15.0                      | 15.5      |                   |
|            |          |                     | 161  | 5805        | 15.0                      | 15.5      |                   |
|            |          |                     | 165  | 5825        | 15.0                      | 15.5      |                   |
|            |          | 1 Tx HT40           | 151  | 5755        | 15.0                      | 15.5      | No                |
|            |          |                     | 159  | 5795        | 15.0                      | 15.5      |                   |
|            | 802.11ac | 1 Tx VHT20          | 149  | 5745        | 15.0                      | 15.5      | No                |
|            |          |                     | 153  | 5765        | 15.0                      | 15.5      |                   |
|            |          |                     | 157  | 5785        | 15.0                      | 15.5      |                   |
|            |          |                     | 161  | 5805        | 15.0                      | 15.5      |                   |
|            |          |                     | 165  | 5825        | 15.0                      | 15.5      |                   |
|            |          | 1 Tx VHT40          | 151  | 5755        | 15.0                      | 15.5      | No                |
|            |          |                     | 159  | 5795        | 15.0                      | 15.5      |                   |
|            |          | 1 Tx VHT80          | 155  | 5775        | 15.0                      | 15.5      | Yes               |

**Note(s):**

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

**6.3.2. WLAN MIMO**

| Band (GHz) | Mode    | No. of Transmitters    | Ch # | Freq. (MHz) | Max RF Output Power (dBm) |           | SAR Test (Yes/No) |
|------------|---------|------------------------|------|-------------|---------------------------|-----------|-------------------|
|            |         |                        |      |             | Antenna A                 | Antenna B |                   |
| 2.4        | 802.11g | 2 Tx CDD               | 1    | 2412        | 14.0                      | 14.0      | Yes               |
|            |         |                        | 2    | 2417        | 16.0                      | 16.0      |                   |
|            |         |                        | 6    | 2437        | 16.0                      | 16.0      |                   |
|            |         |                        | 10   | 2457        | 16.0                      | 16.0      |                   |
|            |         |                        | 11   | 2462        | 12.5                      | 12.5      |                   |
|            |         |                        | 12   | 2467        | 10.0                      | 10.0      |                   |
|            |         |                        | 13   | 2472        | 0.0                       | 0.0       |                   |
|            | 802.11n | 2 Tx HT20 CDD/STBC/SDM | 1    | 2412        | 14.0                      | 14.0      | No                |
|            |         |                        | 2    | 2417        | 16.0                      | 16.0      |                   |
|            |         |                        | 6    | 2437        | 16.0                      | 16.0      |                   |
|            |         |                        | 10   | 2457        | 16.0                      | 16.0      |                   |
|            |         |                        | 11   | 2462        | 12.5                      | 12.5      |                   |
|            |         |                        | 12   | 2467        | 10.0                      | 10.0      |                   |
|            |         |                        | 13   | 2472        | 0.0                       | 0.0       |                   |

| Band (GHz) | Mode     | No. of Transmitters     | Ch # | Freq. (MHz) | Max RF Output Power (dBm) |           | SAR Test (Yes/No) |
|------------|----------|-------------------------|------|-------------|---------------------------|-----------|-------------------|
|            |          |                         |      |             | Antenna A                 | Antenna B |                   |
| 5.2        | 802.11a  | 2 Tx CDD                | 36   | 5180        | 15.0                      | 15.0      | No                |
|            |          |                         | 40   | 5200        | 15.5                      | 15.5      |                   |
|            |          |                         | 44   | 5220        | 15.5                      | 15.5      |                   |
|            |          |                         | 48   | 5240        | 15.5                      | 15.5      |                   |
|            | 802.11n  | 2 Tx HT20 CDD           | 36   | 5180        | 15.0                      | 15.0      | No                |
|            |          |                         | 40   | 5200        | 15.5                      | 15.5      |                   |
|            |          |                         | 44   | 5220        | 15.5                      | 15.5      |                   |
|            |          |                         | 48   | 5240        | 15.5                      | 15.5      |                   |
|            |          | 2 Tx HT20 STBC/SDM      | 36   | 5180        | 15.0                      | 15.0      | No                |
|            |          |                         | 40   | 5200        | 17.0                      | 16.0      |                   |
|            |          |                         | 44   | 5220        | 17.0                      | 16.0      |                   |
|            |          |                         | 48   | 5240        | 17.0                      | 16.0      |                   |
|            |          | 2 Tx HT40 CDD/STBC/SDM  | 38   | 5190        | 13.0                      | 13.0      | Yes               |
|            |          |                         | 46   | 5230        | 17.0                      | 16.0      |                   |
|            |          |                         |      |             |                           |           |                   |
|            |          |                         |      |             |                           |           |                   |
|            | 802.11ac | 2 Tx VHT20 CDD          | 36   | 5180        | 15.0                      | 15.0      | No                |
|            |          |                         | 40   | 5200        | 15.5                      | 15.5      |                   |
|            |          |                         | 44   | 5220        | 15.5                      | 15.5      |                   |
|            |          |                         | 48   | 5240        | 15.5                      | 15.5      |                   |
|            |          | 2 Tx VHT20 STBC/SDM     | 36   | 5180        | 15.0                      | 15.0      | No                |
|            |          |                         | 40   | 5200        | 17.0                      | 16.0      |                   |
|            |          |                         | 44   | 5220        | 17.0                      | 16.0      |                   |
|            |          |                         | 48   | 5240        | 17.0                      | 16.0      |                   |
|            |          | 2 Tx VHT40 CDD/STBC/SDM | 38   | 5190        | 13.0                      | 13.0      | No                |
|            |          |                         | 46   | 5230        | 17.0                      | 16.0      |                   |
|            |          | 2 Tx VHT80 CDD/STBC/SDM | 42   | 5210        | 12.0                      | 12.0      | No                |

**Note(s):**

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

| Band (GHz) | Mode     | No. of Transmitters     | Ch # | Freq. (MHz) | Max RF Output Power (dBm) |           | SAR Test (Yes/No) |
|------------|----------|-------------------------|------|-------------|---------------------------|-----------|-------------------|
|            |          |                         |      |             | Antenna A                 | Antenna B |                   |
| 5.3        | 802.11a  | 2 Tx CDD                | 52   | 5260        | 15.0                      | 15.0      | No                |
|            |          |                         | 56   | 5280        | 15.0                      | 15.0      |                   |
|            |          |                         | 60   | 5300        | 15.0                      | 15.0      |                   |
|            |          |                         | 64   | 5320        | 14.5                      | 14.5      |                   |
|            | 802.11n  | 2 Tx HT20 CDD           | 52   | 5260        | 15.0                      | 15.0      | No                |
|            |          |                         | 56   | 5280        | 15.0                      | 15.0      |                   |
|            |          |                         | 60   | 5300        | 15.0                      | 15.0      |                   |
|            |          |                         | 64   | 5320        | 14.5                      | 14.5      |                   |
|            |          | 2 Tx HT20 STBC/SDM      | 52   | 5260        | 16.0                      | 16.0      | No                |
|            |          |                         | 56   | 5280        | 16.0                      | 16.0      |                   |
|            |          |                         | 60   | 5300        | 16.0                      | 16.0      |                   |
|            |          |                         | 64   | 5320        | 14.5                      | 14.5      |                   |
|            |          | 2 Tx HT40 CDD/STBC/SDM  | 54   | 5270        | 16.0                      | 16.0      | No                |
|            |          |                         | 62   | 5310        | 13.5                      | 13.5      |                   |
|            |          |                         |      |             |                           |           |                   |
|            |          |                         |      |             |                           |           |                   |
|            | 802.11ac | 2 Tx VHT20 CDD          | 52   | 5260        | 15.0                      | 15.0      | No                |
|            |          |                         | 56   | 5280        | 15.0                      | 15.0      |                   |
|            |          |                         | 60   | 5300        | 15.0                      | 15.0      |                   |
|            |          |                         | 64   | 5320        | 14.5                      | 14.5      |                   |
|            |          | 2 Tx VHT20 STBC/SDM     | 52   | 5260        | 16.0                      | 16.0      | No                |
|            |          |                         | 56   | 5280        | 16.0                      | 16.0      |                   |
|            |          |                         | 60   | 5300        | 16.0                      | 16.0      |                   |
|            |          |                         | 64   | 5320        | 14.5                      | 14.5      |                   |
|            |          | 2 Tx VHT40 CDD/STBC/SDM | 54   | 5270        | 16.0                      | 16.0      | No                |
|            |          |                         | 62   | 5310        | 13.5                      | 13.5      |                   |
|            |          | 2 Tx VHT80 CDD/STBC/SDM | 58   | 5290        | 11.5                      | 11.5      | No                |

**Note(s):**

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

| Band (GHz) | Mode    | No. of Transmitters    | Ch # | Freq. (MHz) | Max RF Output Power (dBm) |           | SAR Test (Yes/No) |
|------------|---------|------------------------|------|-------------|---------------------------|-----------|-------------------|
|            |         |                        |      |             | Antenna A                 | Antenna B |                   |
| 5.5        | 802.11a | 2 Tx CDD               | 100  | 5500        | 14.0                      | 14.0      | No                |
|            |         |                        | 104  | 5520        | 14.0                      | 14.0      |                   |
|            |         |                        | 108  | 5540        | 14.0                      | 14.0      |                   |
|            |         |                        | 112  | 5560        | 14.0                      | 14.0      |                   |
|            |         |                        | 116  | 5580        | 14.0                      | 14.0      |                   |
|            |         |                        | 120  | 5600        | 14.0                      | 14.0      |                   |
|            |         |                        | 124  | 5620        | 14.0                      | 14.0      |                   |
|            |         |                        | 128  | 5640        | 14.0                      | 14.0      |                   |
|            |         |                        | 132  | 5660        | 14.0                      | 14.0      |                   |
|            |         |                        | 136  | 5680        | 14.0                      | 14.0      |                   |
|            |         |                        | 140  | 5700        | 14.0                      | 14.0      |                   |
|            |         |                        | 144  | 5720        | 14.0                      | 14.0      |                   |
|            | 802.11n | 2 Tx HT20 CDD          | 100  | 5500        | 14.0                      | 14.0      | No                |
|            |         |                        | 104  | 5520        | 14.0                      | 14.0      |                   |
|            |         |                        | 108  | 5540        | 14.0                      | 14.0      |                   |
|            |         |                        | 112  | 5560        | 14.0                      | 14.0      |                   |
|            |         |                        | 116  | 5580        | 14.0                      | 14.0      |                   |
|            |         |                        | 120  | 5600        | 14.0                      | 14.0      |                   |
|            |         |                        | 124  | 5620        | 14.0                      | 14.0      |                   |
|            |         |                        | 128  | 5640        | 14.0                      | 14.0      |                   |
|            |         |                        | 132  | 5660        | 14.0                      | 14.0      |                   |
|            |         |                        | 136  | 5680        | 14.0                      | 14.0      |                   |
|            |         |                        | 140  | 5700        | 14.0                      | 14.0      |                   |
|            |         |                        | 144  | 5720        | 14.0                      | 14.0      |                   |
|            |         | 2 Tx HT20 STBC/SDM     | 100  | 5500        | 15.0                      | 15.0      | No                |
|            |         |                        | 104  | 5520        | 15.0                      | 15.0      |                   |
|            |         |                        | 108  | 5540        | 15.0                      | 15.0      |                   |
|            |         |                        | 112  | 5560        | 15.0                      | 15.0      |                   |
|            |         |                        | 116  | 5580        | 15.0                      | 15.0      |                   |
|            |         |                        | 120  | 5600        | 15.0                      | 15.0      |                   |
|            |         |                        | 124  | 5620        | 15.0                      | 15.0      |                   |
|            |         |                        | 128  | 5640        | 15.0                      | 15.0      |                   |
|            |         |                        | 132  | 5660        | 15.0                      | 15.0      |                   |
|            |         |                        | 136  | 5680        | 15.0                      | 15.0      |                   |
|            |         |                        | 140  | 5700        | 14.0                      | 14.0      |                   |
|            |         |                        | 144  | 5720        | 15.0                      | 15.0      |                   |
|            |         | 2 Tx HT40 CDD/STBC/SDM | 102  | 5510        | 13.5                      | 13.5      | No                |
|            |         |                        | 110  | 5550        | 15.0                      | 15.0      |                   |
|            |         |                        | 118  | 5590        | 15.0                      | 15.0      |                   |
|            |         |                        | 126  | 5630        | 15.0                      | 15.0      |                   |
|            |         |                        | 134  | 5670        | 15.0                      | 15.0      |                   |
|            |         |                        | 142  | 5710        | 15.0                      | 15.0      |                   |

**Note(s):**

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

| Band (GHz) | Mode     | No. of Transmitters     | Ch # | Freq. (MHz) | Max RF Output Power (dBm) |           | SAR Test (Yes/No) |
|------------|----------|-------------------------|------|-------------|---------------------------|-----------|-------------------|
|            |          |                         |      |             | Antenna A                 | Antenna B |                   |
| 5.5        | 802.11ac | 2 Tx VHT20 CDD          | 100  | 5500        | 14.0                      | 14.0      | No                |
|            |          |                         | 104  | 5520        | 14.0                      | 14.0      |                   |
|            |          |                         | 108  | 5540        | 14.0                      | 14.0      |                   |
|            |          |                         | 112  | 5560        | 14.0                      | 14.0      |                   |
|            |          |                         | 116  | 5580        | 14.0                      | 14.0      |                   |
|            |          |                         | 120  | 5600        | 14.0                      | 14.0      |                   |
|            |          |                         | 124  | 5620        | 14.0                      | 14.0      |                   |
|            |          |                         | 128  | 5640        | 14.0                      | 14.0      |                   |
|            |          |                         | 132  | 5660        | 14.0                      | 14.0      |                   |
|            |          |                         | 136  | 5680        | 14.0                      | 14.0      |                   |
|            |          |                         | 140  | 5700        | 14.0                      | 14.0      |                   |
|            |          |                         | 144  | 5720        | 14.0                      | 14.0      |                   |
|            |          | 2 Tx VHT20 STBC/SDM     | 100  | 5500        | 15.0                      | 15.0      | No                |
|            |          |                         | 104  | 5520        | 15.0                      | 15.0      |                   |
|            |          |                         | 108  | 5540        | 15.0                      | 15.0      |                   |
|            |          |                         | 112  | 5560        | 15.0                      | 15.0      |                   |
|            |          |                         | 116  | 5580        | 15.0                      | 15.0      |                   |
|            |          |                         | 120  | 5600        | 15.0                      | 15.0      |                   |
|            |          |                         | 124  | 5620        | 15.0                      | 15.0      |                   |
|            |          |                         | 128  | 5640        | 15.0                      | 15.0      |                   |
|            |          |                         | 132  | 5660        | 15.0                      | 15.0      |                   |
|            |          |                         | 136  | 5680        | 15.0                      | 15.0      |                   |
|            |          |                         | 140  | 5700        | 14.0                      | 14.0      |                   |
|            |          |                         | 144  | 5720        | 15.0                      | 15.0      |                   |
|            |          | 2 Tx VHT40 CDD/STBC/SDM | 102  | 5510        | 13.5                      | 13.5      | No                |
|            |          |                         | 110  | 5550        | 15.0                      | 15.0      |                   |
|            |          |                         | 118  | 5590        | 15.0                      | 15.0      |                   |
|            |          |                         | 126  | 5630        | 15.0                      | 15.0      |                   |
|            |          |                         | 134  | 5670        | 15.0                      | 15.0      |                   |
|            |          |                         | 142  | 5710        | 15.0                      | 15.0      |                   |
|            |          | 2 Tx VHT80 CDD/STBC/SDM | 106  | 5530        | 11.5                      | 11.5      | Yes               |
|            |          |                         | 122  | 5610        | 15.0                      | 15.0      |                   |
|            |          |                         | 138  | 5690        | 15.0                      | 15.0      |                   |

**Note(s):**

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

| Band (GHz) | Mode     | No. of Transmitters     | Ch # | Freq. (MHz) | Max RF Output Power (dBm) |           | SAR Test (Yes/No) |
|------------|----------|-------------------------|------|-------------|---------------------------|-----------|-------------------|
|            |          |                         |      |             | Antenna A                 | Antenna B |                   |
| 5.8        | 802.11a  | 2 Tx CDD                | 149  | 5745        | 15.0                      | 15.5      | No                |
|            |          |                         | 153  | 5765        | 15.0                      | 15.5      |                   |
|            |          |                         | 157  | 5785        | 15.0                      | 15.5      |                   |
|            |          |                         | 161  | 5805        | 15.0                      | 15.5      |                   |
|            |          |                         | 165  | 5825        | 15.0                      | 15.5      |                   |
|            | 802.11n  | 2 Tx HT20 CDD/STBC/SDM  | 149  | 5745        | 15.0                      | 15.5      | No                |
|            |          |                         | 153  | 5765        | 15.0                      | 15.5      |                   |
|            |          |                         | 157  | 5785        | 15.0                      | 15.5      |                   |
|            |          |                         | 161  | 5805        | 15.0                      | 15.5      |                   |
|            |          |                         | 165  | 5825        | 15.0                      | 15.5      |                   |
|            |          | 2 Tx HT40 CDD/STBC/SDM  | 151  | 5755        | 15.0                      | 15.5      | No                |
|            |          |                         | 159  | 5795        | 15.0                      | 15.5      |                   |
|            | 802.11ac | 2 Tx VHT20 CDD/STBC/SDM | 149  | 5745        | 15.0                      | 15.5      | No                |
|            |          |                         | 153  | 5765        | 15.0                      | 15.5      |                   |
|            |          |                         | 157  | 5785        | 15.0                      | 15.5      |                   |
|            |          |                         | 161  | 5805        | 15.0                      | 15.5      |                   |
|            |          |                         | 165  | 5825        | 15.0                      | 15.5      |                   |
|            |          | 2 Tx VHT40 CDD/STBC/SDM | 151  | 5755        | 15.0                      | 15.5      | No                |
|            |          |                         | 159  | 5795        | 15.0                      | 15.5      |                   |
|            |          | 2 Tx VHT80 CDD/STBC/SDM | 155  | 5775        | 15.0                      | 15.5      | Yes               |

**Note(s):**

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

**6.3.3. Bluetooth**

| RF Air Interface | Mode | Max RF Output Power (dBm) |                  |
|------------------|------|---------------------------|------------------|
|                  |      | Antenna A                 |                  |
|                  |      | P <sub>High</sub>         | P <sub>Low</sub> |
| Bluetooth        | GFSK | 17.0                      | 10.5             |

**Note(s):**

- Bluetooth P<sub>Low</sub> is triggered when 5 GHz Wi-Fi is on. Functional description of this mode is provided in technical description documents.

## 6.4. General LTE SAR Test and Reporting Considerations

| Item                                                        | Description |                                  |                  |                  |                  |                  |                  |
|-------------------------------------------------------------|-------------|----------------------------------|------------------|------------------|------------------|------------------|------------------|
| Frequency range, Channel Bandwidth, Numbers and Frequencies | Band 2      | Frequency range: 1850 - 1910 MHz |                  |                  |                  |                  |                  |
|                                                             |             | Channel Bandwidth                |                  |                  |                  |                  |                  |
|                                                             |             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            | 1.4 MHz          |
|                                                             | Low         | 18700<br>/1860                   | 18675/<br>1857.5 | 18650/<br>1855   | 18625/<br>1852.5 | 18615/<br>1851.5 | 18607/<br>1850.7 |
|                                                             | Mid         | 18900/<br>1880                   | 18900/<br>1880   | 18900/<br>1880   | 18900/<br>1880   | 18900/<br>1880   | 18900/<br>1880   |
|                                                             | High        | 19100/<br>1900                   | 19125/<br>1902.5 | 19150/<br>1905   | 19175/<br>1907.5 | 19185/<br>1908.5 | 19193/<br>1909.3 |
|                                                             | Band 4      | Frequency range: 1710 - 1755 MHz |                  |                  |                  |                  |                  |
|                                                             |             | Channel Bandwidth                |                  |                  |                  |                  |                  |
|                                                             |             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            | 1.4 MHz          |
|                                                             | Low         | 20050/<br>1720                   | 20025/<br>1717.5 | 20000/<br>1715   | 19975/<br>1712.5 | 19965/<br>1711.5 | 19957/<br>1710.7 |
|                                                             | Mid         | 20175/<br>1732.5                 | 20175/<br>1732.5 | 20175/<br>1732.5 | 20175/<br>1732.5 | 20175/<br>1732.5 | 20175/<br>1732.5 |
|                                                             | High        | 20300/<br>1745                   | 20325/<br>1747.5 | 20350/<br>1750   | 20375/<br>1752.5 | 20385/<br>1753.5 | 20393/<br>1754.3 |
|                                                             | Band 5      | Frequency range: 824 - 849 MHz   |                  |                  |                  |                  |                  |
|                                                             |             | Channel Bandwidth                |                  |                  |                  |                  |                  |
|                                                             |             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            | 1.4 MHz          |
|                                                             | Low         |                                  |                  | 20450/<br>829    | 20425/<br>826.5  | 20415/<br>825.5  | 20407/<br>824.7  |
|                                                             | Mid         |                                  |                  | 20525/<br>836.5  | 20525/<br>836.5  | 20525/<br>836.5  | 20525/<br>836.5  |
|                                                             | High        |                                  |                  | 20600/<br>844    | 20625/<br>846.5  | 20635/<br>847.5  | 20643/<br>848.3  |
|                                                             | Band 7      | Frequency range: 2500 - 2570 MHz |                  |                  |                  |                  |                  |
|                                                             |             | Channel Bandwidth                |                  |                  |                  |                  |                  |
|                                                             |             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            | 1.4 MHz          |
|                                                             | Low         | 20850<br>2510                    | 20825<br>2507.5  | 20800<br>2505    | 20775<br>2502.5  |                  |                  |
|                                                             | Mid         | 21100<br>2535                    | 21100<br>2535    | 21100<br>2535    | 21100<br>2535    |                  |                  |
|                                                             | High        | 21350<br>2560                    | 21375<br>2562.5  | 21400<br>2565    | 21425<br>2567.5  |                  |                  |
|                                                             | Band 12     | Frequency range: 699 – 716 MHz   |                  |                  |                  |                  |                  |
|                                                             |             | Channel Bandwidth                |                  |                  |                  |                  |                  |
|                                                             |             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            | 1.4 MHz          |
|                                                             | Low         |                                  |                  |                  | 23035/<br>701.5  | 23025/<br>700.5  | 23017/<br>699.7  |
|                                                             | Mid         |                                  |                  | 23095/<br>707.5  | 23095/<br>707.5  | 23095/<br>707.5  | 23095/<br>707.5  |
|                                                             | High        |                                  |                  |                  | 23155/<br>713.5  | 23165/<br>714.5  | 23173/<br>715.3  |
|                                                             | Band 13     | Frequency range: 777 - 787 MHz   |                  |                  |                  |                  |                  |
|                                                             |             | Channel Bandwidth                |                  |                  |                  |                  |                  |
|                                                             |             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            | 1.4 MHz          |
|                                                             | Low         |                                  |                  |                  |                  |                  |                  |
|                                                             | Mid         |                                  |                  | 23230/<br>782    | 23230/<br>782    |                  |                  |
|                                                             | High        |                                  |                  |                  |                  |                  |                  |

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

|                                                             |                             |                                  |                  |                  |                  |                  |                  |
|-------------------------------------------------------------|-----------------------------|----------------------------------|------------------|------------------|------------------|------------------|------------------|
| Frequency range, Channel Bandwidth, Numbers and Frequencies | Band 17                     | Frequency range: 704 - 716 MHz   |                  |                  |                  |                  |                  |
|                                                             |                             | Channel Bandwidth                |                  |                  |                  |                  |                  |
|                                                             |                             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            | 1.4 MHz          |
|                                                             | Low                         |                                  |                  |                  | 23755/<br>706.5  |                  |                  |
|                                                             | Mid                         |                                  |                  | 23790/<br>710    | 23790/<br>710    |                  |                  |
|                                                             | High                        |                                  |                  |                  | 23825/<br>713.5  |                  |                  |
|                                                             | Band 25                     | Frequency range: 1850 - 1915 MHz |                  |                  |                  |                  |                  |
|                                                             |                             | Channel Bandwidth                |                  |                  |                  |                  |                  |
|                                                             |                             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            | 1.4 MHz          |
|                                                             | Low                         | 26140/<br>1860                   | 26115/<br>1857.5 | 26090/<br>1855   | 26065/<br>1852.5 | 26055/<br>1851.5 | 26047/<br>1850.7 |
|                                                             | Mid                         | 26365/<br>1882.5                 | 26365/<br>1882.5 | 26365/<br>1882.5 | 26365/<br>1882.5 | 26365/<br>1882.5 | 26365/<br>1882.5 |
|                                                             | High                        | 26590/<br>1905                   | 26615/<br>1907.5 | 26640/<br>1910   | 26665/<br>1912.5 | 26675/<br>1913.5 | 26683/<br>1914.3 |
|                                                             | Band 26                     | Frequency range: 814 - 849 MHz   |                  |                  |                  |                  |                  |
|                                                             |                             | Channel Bandwidth                |                  |                  |                  |                  |                  |
|                                                             |                             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            | 1.4 MHz          |
|                                                             | Low                         |                                  |                  | 26740/<br>819    | 26715/<br>816.5  | 26705/<br>815.5  | 26697/<br>814.7  |
|                                                             | Mid                         |                                  |                  | 26865/<br>831.5  | 26865/<br>831.5  | 26865/<br>831.5  | 26865/<br>831.5  |
|                                                             | High                        |                                  |                  | 26990/<br>844    | 27015/<br>846.5  | 27025/<br>847.5  | 27033/<br>848.3  |
|                                                             | Band 27                     | Frequency range: 814 - 824 MHz   |                  |                  |                  |                  |                  |
|                                                             |                             | Channel Bandwidth                |                  |                  |                  |                  |                  |
|                                                             |                             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            | 1.4 MHz          |
|                                                             | Low                         |                                  |                  |                  | 27135/<br>816.5  | 27125/<br>815.5  | 27117/<br>814.7  |
|                                                             | Mid                         |                                  |                  | 27160/<br>819    | 27160/<br>819    | 27160/<br>819    | 27160/<br>819    |
|                                                             | High                        |                                  |                  |                  | 27185/<br>821.5  | 27195/<br>822.5  | 27203/<br>823.3  |
|                                                             | Band 30                     | Frequency range: 2305 - 2315 MHz |                  |                  |                  |                  |                  |
|                                                             |                             | Channel Bandwidth                |                  |                  |                  |                  |                  |
|                                                             |                             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            | 1.4 MHz          |
|                                                             | Low                         |                                  |                  |                  |                  |                  |                  |
|                                                             | Mid                         |                                  |                  | 27710/<br>2310   | 27710/<br>2310   |                  |                  |
|                                                             | High                        |                                  |                  |                  |                  |                  |                  |
|                                                             | Band 41                     | Frequency range: 2496 - 2690 MHz |                  |                  |                  |                  |                  |
|                                                             |                             | Channel Bandwidth                |                  |                  |                  |                  |                  |
|                                                             |                             | 20 MHz                           | 15 MHz           | 10 MHz           | 5 MHz            | 3 MHz            | 1.4 MHz          |
|                                                             | Low                         | 39750 / 2506.0                   |                  |                  |                  |                  |                  |
|                                                             | Low-Mid                     | 40185 / 2549.5                   |                  |                  |                  |                  |                  |
|                                                             | Mid                         | 40620 / 2593.0                   |                  |                  |                  |                  |                  |
|                                                             | Mid-High                    | 41055 / 2636.5                   |                  |                  |                  |                  |                  |
|                                                             | High                        | 41490 / 2680.0                   |                  |                  |                  |                  |                  |
| LTE transmitter and antenna implementation                  | LTE has two Tx/Rx antennas. |                                  |                  |                  |                  |                  |                  |

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

**Notes:**

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

## 6.5. LTE (TDD) Considerations

According to KDB 941225 D05 SAR for LTE Devices v02r02, for Time-Division Duplex (TDD) systems, SAR must be tested using a fixed periodic duty factor according to the highest transmission duty factor implemented for the device and supported by the defined 3GPP LTE TDD configurations.

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

LTE TDD Bands support 3GPP TS 36.211 section 4.2 for Type 2 Frame Structure and Table 4.2-2 for uplink-downlink configurations and Table 4.2-1 for Special subframe configurations.

Table 4.2-1: Configuration of special subframe (lengths of DwPTS/GP/UpPTS).

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

### Calculated Duty Cycle

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

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

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

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

where

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

### Note(s):

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

## 7. RF Exposure Conditions (Test Configurations)

WWAN antenna is located near the upper left and right corners of the device. WLAN antennas are located near the lower left and right corners of the device.

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

### 7.1. Standalone SAR Test Exclusion Considerations

Since the *Dedicated Host Approach* is applied, the standalone SAR test exclusion procedure in KDB 447498 § 4.3.1 is applied in conjunction with KDB 616217 § 4.3 to determine the minimum test separation distance:

- When the separation distance from the antenna to an adjacent edge is  $\leq 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion.
- When the separation distance from the antenna to an adjacent edge is  $> 5$  mm, the actual antenna-to-edge separation distance is applied to determine SAR test exclusion.

**SAR Test Exclusion Calculations for WWAN****Antennas < 50mm to adjacent edges**

| Antenna   | Tx Interface | Frequency (MHz) | Output Power |     | Separation Distances (mm) |        |        |        |        |       | Calculated Threshold Value |                   |         |         |         |       |
|-----------|--------------|-----------------|--------------|-----|---------------------------|--------|--------|--------|--------|-------|----------------------------|-------------------|---------|---------|---------|-------|
|           |              |                 | dBm          | mW  | Rear                      | Edge 1 | Edge 2 | Edge 3 | Edge 4 | Front | Rear                       | Edge 1            | Edge 2  | Edge 3  | Edge 4  | Front |
| Antenna C |              |                 |              |     |                           |        |        |        |        |       |                            |                   |         |         |         |       |
| Cellular  | GPRS 2 Slots | 848.8           | 25.0         | 79  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 14.6<br>-MEASURE-          | 14.6<br>-MEASURE- | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | GPRS 2 Slots | 1909.8          | 19.0         | 20  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 5.5<br>-MEASURE-           | 5.5<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | W-CDMA 2     | 1907.6          | 12.6         | 18  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 5<br>-MEASURE-             | 5<br>-MEASURE-    | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | W-CDMA 4     | 1752.6          | 13.0         | 20  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 5.3<br>-MEASURE-           | 5.3<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | W-CDMA 5     | 846.6           | 18.8         | 76  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 14<br>-MEASURE-            | 14<br>-MEASURE-   | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | CDMA BC0     | 848.3           | 18.8         | 76  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 14<br>-MEASURE-            | 14<br>-MEASURE-   | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | CDMA BC1     | 1908.8          | 12.6         | 18  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 5<br>-MEASURE-             | 5<br>-MEASURE-    | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | CDMA BC10    | 823.1           | 18.5         | 71  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 12.9<br>-MEASURE-          | 12.9<br>-MEASURE- | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 2   | 1900.0          | 12.6         | 18  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 5<br>-MEASURE-             | 5<br>-MEASURE-    | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 4   | 1754.3          | 13.0         | 20  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 5.3<br>-MEASURE-           | 5.3<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 5   | 844.0           | 18.8         | 76  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 14<br>-MEASURE-            | 14<br>-MEASURE-   | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 7   | 2560.0          | 13.0         | 20  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 6.4<br>-MEASURE-           | 6.4<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 12  | 711.0           | 20.2         | 105 | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 17.7<br>-MEASURE-          | 17.7<br>-MEASURE- | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 13  | 782.0           | 19.2         | 83  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 14.7<br>-MEASURE-          | 14.7<br>-MEASURE- | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 17  | 710.0           | 20.2         | 105 | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 17.7<br>-MEASURE-          | 17.7<br>-MEASURE- | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 25  | 1905.0          | 12.6         | 18  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 5<br>-MEASURE-             | 5<br>-MEASURE-    | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 26  | 841.4           | 18.8         | 76  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 13.9<br>-MEASURE-          | 13.9<br>-MEASURE- | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 27  | 815.5           | 18.5         | 71  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 12.8<br>-MEASURE-          | 12.8<br>-MEASURE- | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 30  | 2310.0          | 13.5         | 22  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 6.7<br>-MEASURE-           | 6.7<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 41  | 2680.0          | 14.7         | 30  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | 9.8<br>-MEASURE-           | 9.8<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Antenna D |              |                 |              |     |                           |        |        |        |        |       |                            |                   |         |         |         |       |
| Cellular  | GPRS 2 Slots | 848.8           | 24.0         | 63  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 11.6<br>-MEASURE-          | 11.6<br>-MEASURE- | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | GPRS 2 Slots | 1909.8          | 20.8         | 30  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 8.3<br>-MEASURE-           | 8.3<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | W-CDMA 2     | 1907.6          | 14.2         | 26  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 7.2<br>-MEASURE-           | 7.2<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | W-CDMA 4     | 1752.6          | 13.7         | 23  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 6.1<br>-MEASURE-           | 6.1<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | W-CDMA 5     | 846.6           | 17.2         | 52  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 9.6<br>-MEASURE-           | 9.6<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | CDMA BC0     | 848.3           | 17.2         | 52  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 9.6<br>-MEASURE-           | 9.6<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | CDMA BC1     | 1908.8          | 14.2         | 26  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 7.2<br>-MEASURE-           | 7.2<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | CDMA BC10    | 823.1           | 17.2         | 52  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 9.4<br>-MEASURE-           | 9.4<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 2   | 1900.0          | 14.2         | 26  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 7.2<br>-MEASURE-           | 7.2<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 4   | 1754.3          | 13.7         | 23  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 6.1<br>-MEASURE-           | 6.1<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 5   | 844.0           | 18.5         | 71  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 13<br>-MEASURE-            | 13<br>-MEASURE-   | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 7   | 2560.0          | 13.7         | 23  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 7.4<br>-MEASURE-           | 7.4<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 12  | 711.0           | 18.0         | 63  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 10.6<br>-MEASURE-          | 10.6<br>-MEASURE- | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 13  | 782.0           | 18.0         | 63  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 11.1<br>-MEASURE-          | 11.1<br>-MEASURE- | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 17  | 710.0           | 18.0         | 63  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 10.6<br>-MEASURE-          | 10.6<br>-MEASURE- | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 25  | 1905.0          | 14.2         | 26  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 7.2<br>-MEASURE-           | 7.2<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 26  | 841.4           | 18.5         | 71  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 13<br>-MEASURE-            | 13<br>-MEASURE-   | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 27  | 815.5           | 18.5         | 71  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 12.8<br>-MEASURE-          | 12.8<br>-MEASURE- | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 30  | 2310.0          | 12.8         | 19  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 5.8<br>-MEASURE-           | 5.8<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |
| Cellular  | LTE Band 41  | 2680.0          | 14.5         | 28  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | 9.2<br>-MEASURE-           | 9.2<br>-MEASURE-  | > 50 mm | > 50 mm | > 50 mm |       |

**Note(s):**

According to KDB 447498, if the calculated threshold value is >3 then SAR testing is required.

**Antennas > 50mm to adjacent edges**

| Antenna   | Tx Interface | Frequency (MHz) | Output Power |     | Separation Distances (mm) |        |        |        |        |       | Calculated Threshold Value |         |                       |                        |                       |       |
|-----------|--------------|-----------------|--------------|-----|---------------------------|--------|--------|--------|--------|-------|----------------------------|---------|-----------------------|------------------------|-----------------------|-------|
|           |              |                 | dBm          | mW  | Rear                      | Edge 1 | Edge 2 | Edge 3 | Edge 4 | Front | Rear                       | Edge 1  | Edge 2                | Edge 3                 | Edge 4                | Front |
| Antenna C |              |                 |              |     |                           |        |        |        |        |       |                            |         |                       |                        |                       |       |
| Cellular  | GPRS 2 Slots | 848.8           | 25.0         | 79  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 176.5 mW<br>-EXEM PT- | 1525.8 mW<br>-EXEM PT- | 575.7 mW<br>-EXEM PT- |       |
| Cellular  | GPRS 2 Slots | 1909.8          | 19.0         | 20  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 32.7 mW<br>-EXEM PT-  | 257.2 mW<br>-EXEM PT-  | 838.1 mW<br>-EXEM PT- |       |
| Cellular  | W-CDMA 2     | 1907.6          | 12.6         | 18  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 32.5 mW<br>-EXEM PT-  | 257.3 mW<br>-EXEM PT-  | 838.2 mW<br>-EXEM PT- |       |
| Cellular  | W-CDMA 4     | 1752.6          | 13.0         | 20  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 37.5 mW<br>-EXEM PT-  | 252.2 mW<br>-EXEM PT-  | 842.9 mW<br>-EXEM PT- |       |
| Cellular  | W-CDMA 5     | 846.6           | 18.8         | 76  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 176.7 mW<br>-EXEM PT- | 1522.5 mW<br>-EXEM PT- | 574.8 mW<br>-EXEM PT- |       |
| Cellular  | CDMA BC0     | 848.3           | 18.8         | 76  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 176.5 mW<br>-EXEM PT- | 1525.1mW<br>-EXEM PT-  | 575.5 mW<br>-EXEM PT- |       |
| Cellular  | CDMA BC1     | 1908.8          | 12.6         | 18  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 32.8 mW<br>-EXEM PT-  | 257.3 mW<br>-EXEM PT-  | 838.2 mW<br>-EXEM PT- |       |
| Cellular  | CDMA BC10    | 823.1           | 18.5         | 71  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 178.6 mW<br>-EXEM PT- | 1487.1mW<br>-EXEM PT-  | 565.7 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 2   | 1900.0          | 12.6         | 18  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 33 mW<br>-EXEM PT-    | 257.5 mW<br>-EXEM PT-  | 838.4 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 4   | 1754.3          | 13.0         | 20  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 37.5 mW<br>-EXEM PT-  | 252.2 mW<br>-EXEM PT-  | 842.9 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 5   | 844.0           | 18.8         | 76  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 176.9 mW<br>-EXEM PT- | 1538.6 mW<br>-EXEM PT- | 573.8 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 7   | 2560.0          | 13.0         | 20  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 118 mW<br>-EXEM PT-   | 2502.5 mW<br>-EXEM PT- | 823.4 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 12  | 711.0           | 20.2         | 105 | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 339.4 mW<br>-EXEM PT- | 339.6 mW<br>-EXEM PT-  | 523.7 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 13  | 782.0           | 19.2         | 83  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 382.2 mW<br>-EXEM PT- | 3425.4 mW<br>-EXEM PT- | 550 mW<br>-EXEM PT-   |       |
| Cellular  | LTE Band 17  | 710.0           | 20.2         | 105 | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 339.5 mW<br>-EXEM PT- | 338.1mW<br>-EXEM PT-   | 523.4 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 25  | 1905.0          | 12.6         | 18  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 32.9 mW<br>-EXEM PT-  | 257.4 mW<br>-EXEM PT-  | 838.3 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 26  | 841.4           | 18.8         | 76  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 177.1mW<br>-EXEM PT-  | 1534.6 mW<br>-EXEM PT- | 572.8 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 27  | 815.5           | 18.5         | 71  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 179.3 mW<br>-EXEM PT- | 1475.6 mW<br>-EXEM PT- | 562.8 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 30  | 2310.0          | 13.5         | 22  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 22.9 mW<br>-EXEM PT-  | 2507.4 mW<br>-EXEM PT- | 828.3 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 41  | 2680.0          | 14.7         | 30  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | < 50 mm                    | < 50 mm | 15.8 mW<br>-EXEM PT-  | 2500.3 mW<br>-EXEM PT- | 821.2 mW<br>-EXEM PT- |       |
| Antenna D |              |                 |              |     |                           |        |        |        |        |       |                            |         |                       |                        |                       |       |
| Cellular  | GPRS 2 Slots | 848.8           | 24.0         | 63  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 575.7 mW<br>-EXEM PT- | 1525.8 mW<br>-EXEM PT- | 176.5 mW<br>-EXEM PT- |       |
| Cellular  | GPRS 2 Slots | 1909.8          | 20.8         | 30  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 838.1mW<br>-EXEM PT-  | 257.2 mW<br>-EXEM PT-  | 32.7 mW<br>-EXEM PT-  |       |
| Cellular  | W-CDMA 2     | 1907.6          | 14.2         | 26  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 838.2 mW<br>-EXEM PT- | 257.3 mW<br>-EXEM PT-  | 32.8 mW<br>-EXEM PT-  |       |
| Cellular  | W-CDMA 4     | 1752.6          | 13.7         | 23  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 842.9 mW<br>-EXEM PT- | 252.2 mW<br>-EXEM PT-  | 37.5 mW<br>-EXEM PT-  |       |
| Cellular  | W-CDMA 5     | 846.6           | 17.2         | 52  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 574.8 mW<br>-EXEM PT- | 1522.5 mW<br>-EXEM PT- | 176.7 mW<br>-EXEM PT- |       |
| Cellular  | CDMA BC0     | 848.3           | 17.2         | 52  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 575.5 mW<br>-EXEM PT- | 1525.1mW<br>-EXEM PT-  | 176.5 mW<br>-EXEM PT- |       |
| Cellular  | CDMA BC1     | 1908.8          | 14.2         | 26  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 838.2 mW<br>-EXEM PT- | 257.3 mW<br>-EXEM PT-  | 32.8 mW<br>-EXEM PT-  |       |
| Cellular  | CDMA BC10    | 823.1           | 17.2         | 52  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 565.7 mW<br>-EXEM PT- | 1487.1mW<br>-EXEM PT-  | 178.6 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 2   | 1900.0          | 14.2         | 26  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 838.4 mW<br>-EXEM PT- | 257.5 mW<br>-EXEM PT-  | 33 mW<br>-EXEM PT-    |       |
| Cellular  | LTE Band 4   | 1754.3          | 13.7         | 23  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 842.9 mW<br>-EXEM PT- | 252.2 mW<br>-EXEM PT-  | 37.5 mW<br>-EXEM PT-  |       |
| Cellular  | LTE Band 5   | 844.0           | 18.5         | 71  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 573.8 mW<br>-EXEM PT- | 1538.6 mW<br>-EXEM PT- | 176.9 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 7   | 2560.0          | 13.7         | 23  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 823.4 mW<br>-EXEM PT- | 2502.5 mW<br>-EXEM PT- | 118 mW<br>-EXEM PT-   |       |
| Cellular  | LTE Band 12  | 711.0           | 18.0         | 63  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 523.7 mW<br>-EXEM PT- | 339.6 mW<br>-EXEM PT-  | 339.4 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 13  | 782.0           | 18.0         | 63  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 550 mW<br>-EXEM PT-   | 3425.4 mW<br>-EXEM PT- | 382.2 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 17  | 710.0           | 18.0         | 63  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 523.4 mW<br>-EXEM PT- | 338.1mW<br>-EXEM PT-   | 339.5 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 25  | 1905.0          | 14.2         | 26  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 838.3 mW<br>-EXEM PT- | 257.4 mW<br>-EXEM PT-  | 32.9 mW<br>-EXEM PT-  |       |
| Cellular  | LTE Band 26  | 841.4           | 18.5         | 71  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 572.8 mW<br>-EXEM PT- | 1534.6 mW<br>-EXEM PT- | 177.1mW<br>-EXEM PT-  |       |
| Cellular  | LTE Band 27  | 815.5           | 18.5         | 71  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 562.8 mW<br>-EXEM PT- | 1475.6 mW<br>-EXEM PT- | 179.3 mW<br>-EXEM PT- |       |
| Cellular  | LTE Band 30  | 2310.0          | 12.8         | 19  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 828.3 mW<br>-EXEM PT- | 2507.4 mW<br>-EXEM PT- | 22.9 mW<br>-EXEM PT-  |       |
| Cellular  | LTE Band 41  | 2680.0          | 14.5         | 28  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | < 50 mm                    | < 50 mm | 821.2 mW<br>-EXEM PT- | 2500.3 mW<br>-EXEM PT- | 15.8 mW<br>-EXEM PT-  |       |

**Note(s):**

According to KDB 447498, if the calculated Power threshold is less than the output power then SAR testing is required.

**SAR Test Exclusion Calculations for WLAN****Antennas < 50mm to adjacent edges**

| Tx Interface  | Frequency (MHz) | Output Power |     | Separation Distances (mm) |        |        |        |        |                   | Calculated Threshold Value |                |                   |                  |        |       |
|---------------|-----------------|--------------|-----|---------------------------|--------|--------|--------|--------|-------------------|----------------------------|----------------|-------------------|------------------|--------|-------|
|               |                 | dBm          | mW  | Rear                      | Edge 1 | Edge 2 | Edge 3 | Edge 4 | Front             | Rear                       | Edge 1         | Edge 2            | Edge 3           | Edge 4 | Front |
| Antenna A     |                 |              |     |                           |        |        |        |        |                   |                            |                |                   |                  |        |       |
| Wi-Fi 2.4 GHz | 2462            | 16.00        | 40  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  | 10.5<br>-MEASURE- | > 50 mm                    | > 50 mm        | 12.6<br>-MEASURE- | 14<br>-EXEMPT-   |        |       |
| Wi-Fi 5.2 GHz | 5240            | 17.00        | 50  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  | 19.1<br>-MEASURE- | > 50 mm                    | > 50 mm        | 22.9<br>-MEASURE- | 2.5<br>-EXEMPT-  |        |       |
| Wi-Fi 5.3 GHz | 5320            | 16.00        | 40  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  | 15.4<br>-MEASURE- | > 50 mm                    | > 50 mm        | 18.5<br>-MEASURE- | 2<br>-EXEMPT-    |        |       |
| Wi-Fi 5.5 GHz | 5700            | 15.00        | 32  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  | 12.7<br>-MEASURE- | > 50 mm                    | > 50 mm        | 15.3<br>-MEASURE- | 17<br>-EXEMPT-   |        |       |
| Wi-Fi 5.8 GHz | 5825            | 15.00        | 32  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  | 12.9<br>-MEASURE- | > 50 mm                    | > 50 mm        | 15.4<br>-MEASURE- | 17<br>-EXEMPT-   |        |       |
| Bluetooth     | 2480            | 20.00        | 100 | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  | 26.2<br>-MEASURE- | > 50 mm                    | > 50 mm        | 31.5<br>-MEASURE- | 3.4<br>-MEASURE- |        |       |
| Antenna B     |                 |              |     |                           |        |        |        |        |                   |                            |                |                   |                  |        |       |
| Wi-Fi 2.4 GHz | 2462            | 16.00        | 40  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 | 10.5<br>-MEASURE- | > 50 mm                    | 14<br>-EXEMPT- | 12.6<br>-MEASURE- | > 50 mm          |        |       |
| Wi-Fi 5.2 GHz | 5240            | 16.00        | 40  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 | 15.3<br>-MEASURE- | > 50 mm                    | 2<br>-EXEMPT-  | 18.3<br>-MEASURE- | > 50 mm          |        |       |
| Wi-Fi 5.3 GHz | 5320            | 16.00        | 40  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 | 15.4<br>-MEASURE- | > 50 mm                    | 2<br>-EXEMPT-  | 18.5<br>-MEASURE- | > 50 mm          |        |       |
| Wi-Fi 5.5 GHz | 5700            | 15.00        | 32  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 | 12.7<br>-MEASURE- | > 50 mm                    | 17<br>-EXEMPT- | 15.3<br>-MEASURE- | > 50 mm          |        |       |
| Wi-Fi 5.8 GHz | 5825            | 15.50        | 35  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 | 14.1<br>-MEASURE- | > 50 mm                    | 18<br>-EXEMPT- | 16.9<br>-MEASURE- | > 50 mm          |        |       |

**Note(s):**

- According to KDB 447498, if the calculated Power threshold is less than the output power then SAR testing is required.
- With power levels similar to SISO on each chain, MIMO test requirement was determined by the combined requirements of Antenna A and Antenna B SISO.

**Antennas > 50mm to adjacent edges**

| Tx Interface  | Frequency (MHz) | Output Power |     | Separation Distances (mm) |        |        |        |        |       | Calculated Threshold Value |                       |                      |         |                      |       |
|---------------|-----------------|--------------|-----|---------------------------|--------|--------|--------|--------|-------|----------------------------|-----------------------|----------------------|---------|----------------------|-------|
|               |                 | dBm          | mW  | Rear                      | Edge 1 | Edge 2 | Edge 3 | Edge 4 | Front | Rear                       | Edge 1                | Edge 2               | Edge 3  | Edge 4               | Front |
| Antenna A     |                 |              |     |                           |        |        |        |        |       |                            |                       |                      |         |                      |       |
| Wi-Fi 2.4 GHz | 2462            | 16.00        | 40  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  |       | < 50 mm                    | 2532.2 mW<br>-EXEMPT- | 892.5 mW<br>-EXEMPT- | < 50 mm | < 50 mm              |       |
| Wi-Fi 5.2 GHz | 5240            | 17.00        | 50  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  |       | < 50 mm                    | 2502.1mW<br>-EXEMPT-  | 862.4 mW<br>-EXEMPT- | < 50 mm | < 50 mm              |       |
| Wi-Fi 5.3 GHz | 5320            | 16.00        | 40  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  |       | < 50 mm                    | 2501.6 mW<br>-EXEMPT- | 861.9 mW<br>-EXEMPT- | < 50 mm | < 50 mm              |       |
| Wi-Fi 5.5 GHz | 5700            | 15.00        | 32  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  |       | < 50 mm                    | 2499.4 mW<br>-EXEMPT- | 859.7 mW<br>-EXEMPT- | < 50 mm | < 50 mm              |       |
| Wi-Fi 5.8 GHz | 5825            | 15.00        | 32  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  |       | < 50 mm                    | 2498.8 mW<br>-EXEMPT- | 859.1mW<br>-EXEMPT-  | < 50 mm | < 50 mm              |       |
| Bluetooth     | 2480            | 20.00        | 100 | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  |       | < 50 mm                    | 2531.9 mW<br>-EXEMPT- | 892.2 mW<br>-EXEMPT- | < 50 mm | < 50 mm              |       |
| Antenna B     |                 |              |     |                           |        |        |        |        |       |                            |                       |                      |         |                      |       |
| Wi-Fi 2.4 GHz | 2462            | 16.00        | 40  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 |       | < 50 mm                    | 2532.2 mW<br>-EXEMPT- | < 50 mm              | < 50 mm | 892.5 mW<br>-EXEMPT- |       |
| Wi-Fi 5.2 GHz | 5240            | 16.00        | 40  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 |       | < 50 mm                    | 2502.1mW<br>-EXEMPT-  | < 50 mm              | < 50 mm | 862.4 mW<br>-EXEMPT- |       |
| Wi-Fi 5.3 GHz | 5320            | 16.00        | 40  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 |       | < 50 mm                    | 2501.6 mW<br>-EXEMPT- | < 50 mm              | < 50 mm | 861.9 mW<br>-EXEMPT- |       |
| Wi-Fi 5.5 GHz | 5700            | 15.00        | 32  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 |       | < 50 mm                    | 2499.4 mW<br>-EXEMPT- | < 50 mm              | < 50 mm | 859.7 mW<br>-EXEMPT- |       |
| Wi-Fi 5.8 GHz | 5825            | 15.50        | 35  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 |       | < 50 mm                    | 2498.8 mW<br>-EXEMPT- | < 50 mm              | < 50 mm | 859.1mW<br>-EXEMPT-  |       |

**Note(s):**

- According to KDB 447498, if the calculated Power threshold is less than the output power then SAR testing is required.
- With power levels similar to SISO on each chain, MIMO test requirement was determined by the combined requirements of Antenna A and Antenna B SISO.

## 7.2. Required Test Configurations

The table below identifies the standalone test configurations required for this device according to the findings in Section 7.1:

### WWAN

| Test Configurations | Antenna C |            |               |               |             | Antenna D |            |               |               |             |
|---------------------|-----------|------------|---------------|---------------|-------------|-----------|------------|---------------|---------------|-------------|
|                     | Rear      | Edge 1     | Edge 2        | Edge 3        | Edge 4      | Rear      | Edge 1     | Edge 2        | Edge 3        | Edge 4      |
|                     |           | (Top Edge) | (Right Edge ) | (Bottom Edge) | (Left Edge) |           | (Top Edge) | (Right Edge ) | (Bottom Edge) | (Left Edge) |
| GSM850              | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| GSM1900             | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| W-CDMA Band 2       | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| W-CDMA Band 4       | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| W-CDMA Band 5       | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| CDMA BC0            | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| CDMA BC1            | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| CDMA BC10           | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| LTE Band 2          | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| LTE Band 4          | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| LTE Band 5          | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| LTE Band 7          | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| LTE Band 12         | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| LTE Band 13         | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| LTE Band 17         | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| LTE Band 25         | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| LTE Band 26         | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| LTE Band 27         | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| LTE Band 30         | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |
| LTE Band 41         | Yes       | Yes        | No            | No            | No          | Yes       | Yes        | No            | No            | No          |

### WLAN

| Test Configurations            | Rear | Edge 1     | Edge 2        | Edge 3        | Edge 4      |
|--------------------------------|------|------------|---------------|---------------|-------------|
|                                |      | (Top Edge) | (Right Edge ) | (Bottom Edge) | (Left Edge) |
| Wi-Fi 2.4 GHz SISO (Antenna A) | Yes  | No         | No            | Yes           | No          |
| Wi-Fi 2.4 GHz SISO (Antenna B) | Yes  | No         | No            | Yes           | No          |
| Wi-Fi 2.4 GHz MIMO             | Yes  | No         | No            | Yes           | No          |
| Wi-Fi 5 GHz SISO (Antenna A)   | Yes  | No         | No            | Yes           | No          |
| Wi-Fi 5 GHz SISO (Antenna B)   | Yes  | No         | No            | Yes           | No          |
| Wi-Fi 5 GHz MIMO               | Yes  | No         | No            | Yes           | No          |
| Bluetooth                      | Yes  | No         | No            | Yes           | Yes         |

#### Note(s):

Yes = Testing is required.

No = Testing is not required.

## 8. Dielectric Property Measurements & System Check

### 8.1. Dielectric Property Measurements

The temperature of the tissue-equivalent medium used during measurement must also be within 18°C to 25°C and within  $\pm 2^\circ\text{C}$  of the temperature when the tissue parameters are characterized.

The dielectric parameters must be measured before the tissue-equivalent medium is used in a series of SAR measurements. The parameters should be re-measured after each 3 – 4 days of use; or earlier if the dielectric parameters can become out of tolerance; for example, when the parameters are marginal at the beginning of the measurement series.

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

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

#### Tissue Dielectric Parameters

FCC KDB 865664 D01 SAR Measurement 100 MHz to 6 GHz

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

#### IEEE Std 1528-2013

Refer to Table 3 within the IEEE Std 1528-2013

**Dielectric Property Measurements Results:**

| SAR Lab | Date       | Tissue Type | Band (MHz) | Frequency (MHz) | Relative Permittivity ( $\epsilon_r$ ) |        |           | Conductivity ( $\sigma$ ) |        |           |
|---------|------------|-------------|------------|-----------------|----------------------------------------|--------|-----------|---------------------------|--------|-----------|
|         |            |             |            |                 | Measured                               | Target | Delta (%) | Measured                  | Target | Delta (%) |
| A       | 12/27/2016 | 5600        | Body       | 5600            | 46.61                                  | 48.48  | -3.85     | 5.95                      | 5.76   | 3.26      |
|         |            |             |            | 5500            | 46.77                                  | 48.61  | -3.79     | 5.81                      | 5.64   | 2.95      |
|         |            |             |            | 5725            | 46.41                                  | 48.31  | -3.93     | 6.12                      | 5.91   | 3.66      |
| A       | 1/17/2017  | 750         | Body       | 750             | 53.73                                  | 55.55  | -3.27     | 0.97                      | 0.96   | 0.84      |
|         |            |             |            | 695             | 54.33                                  | 55.76  | -2.56     | 0.92                      | 0.96   | -4.54     |
|         |            |             |            | 790             | 53.23                                  | 55.39  | -3.90     | 1.01                      | 0.97   | 4.75      |
| B       | 1/17/2017  | 2600        | Body       | 2600            | 51.74                                  | 52.51  | -1.47     | 2.10                      | 2.16   | -2.58     |
|         |            |             |            | 2495            | 51.94                                  | 52.64  | -1.34     | 1.98                      | 2.01   | -1.50     |
|         |            |             |            | 2690            | 51.55                                  | 52.40  | -1.62     | 2.21                      | 2.29   | -3.38     |
| B       | 1/23/2017  | 2600        | Body       | 2600            | 50.59                                  | 52.51  | -3.66     | 2.21                      | 2.16   | 2.18      |
|         |            |             |            | 2495            | 50.92                                  | 52.64  | -3.27     | 2.08                      | 2.01   | 3.27      |
|         |            |             |            | 2690            | 50.31                                  | 52.40  | -3.98     | 2.32                      | 2.29   | 1.47      |
| C       | 1/26/2017  | 1900        | Body       | 1900            | 51.25                                  | 53.30  | -3.85     | 1.55                      | 1.52   | 1.71      |
|         |            |             |            | 1850            | 51.37                                  | 53.30  | -3.62     | 1.50                      | 1.52   | -1.58     |
|         |            |             |            | 1920            | 51.17                                  | 53.30  | -4.00     | 1.57                      | 1.52   | 3.22      |
| D       | 1/9/2017   | 2450        | Body       | 2450            | 52.44                                  | 52.70  | -0.49     | 1.92                      | 1.95   | -1.64     |
|         |            |             |            | 2400            | 52.62                                  | 52.77  | -0.29     | 1.86                      | 1.90   | -1.95     |
|         |            |             |            | 2480            | 52.34                                  | 52.66  | -0.61     | 1.96                      | 1.99   | -1.77     |
| D       | 1/13/2017  | 2300        | Body       | 2300            | 53.93                                  | 52.90  | 1.94      | 1.82                      | 1.80   | 0.97      |
|         |            |             |            | 2350            | 53.72                                  | 52.84  | 1.67      | 1.90                      | 1.85   | 2.44      |
|         |            |             |            | 2400            | 53.52                                  | 52.77  | 1.42      | 1.97                      | 1.90   | 3.74      |
| D       | 1/17/2017  | 2300        | Body       | 2300            | 52.09                                  | 52.90  | -1.54     | 1.78                      | 1.80   | -1.14     |
|         |            |             |            | 2350            | 51.90                                  | 52.84  | -1.78     | 1.84                      | 1.85   | -0.37     |
|         |            |             |            | 2400            | 51.71                                  | 52.77  | -2.01     | 1.91                      | 1.90   | 0.47      |
| D       | 1/17/2017  | 2600        | Body       | 2600            | 50.56                                  | 52.51  | -3.72     | 2.25                      | 2.16   | 4.31      |
|         |            |             |            | 2495            | 50.98                                  | 52.64  | -3.16     | 2.10                      | 2.01   | 4.51      |
|         |            |             |            | 2690            | 50.20                                  | 52.40  | -4.19     | 2.39                      | 2.29   | 4.40      |
| D       | 2/21/2017  | 2600        | Body       | 2600            | 52.79                                  | 52.51  | 0.53      | 2.21                      | 2.16   | 2.46      |
|         |            |             |            | 2495            | 53.10                                  | 52.64  | 0.87      | 2.09                      | 2.01   | 3.81      |
|         |            |             |            | 2690            | 52.52                                  | 52.40  | 0.23      | 2.32                      | 2.29   | 1.30      |

**Dielectric Property Measurements Results:**

| SAR Lab | Date       | Tissue Type | Band (MHz) | Frequency (MHz) | Relative Permittivity ( $\epsilon_r$ ) |        |           | Conductivity ( $\sigma$ ) |        |           |
|---------|------------|-------------|------------|-----------------|----------------------------------------|--------|-----------|---------------------------|--------|-----------|
|         |            |             |            |                 | Measured                               | Target | Delta (%) | Measured                  | Target | Delta (%) |
| E       | 12/22/2016 | 5800        | Body       | 5800            | 48.75                                  | 48.20  | 1.14      | 6.19                      | 6.00   | 3.20      |
|         |            |             |            | 5700            | 48.85                                  | 48.34  | 1.05      | 6.04                      | 5.88   | 2.83      |
|         |            |             |            | 5850            | 48.69                                  | 48.20  | 1.02      | 6.26                      | 6.00   | 4.38      |
| E       | 12/27/2016 | 5800        | Body       | 5800            | 49.08                                  | 48.20  | 1.83      | 6.06                      | 6.00   | 0.93      |
|         |            |             |            | 5700            | 49.15                                  | 48.34  | 1.67      | 5.95                      | 5.88   | 1.20      |
|         |            |             |            | 5850            | 48.93                                  | 48.20  | 1.51      | 6.15                      | 6.00   | 2.55      |
| E       | 1/17/2017  | 835         | Body       | 835             | 53.40                                  | 55.20  | -3.26     | 0.99                      | 0.97   | 2.00      |
|         |            |             |            | 805             | 53.72                                  | 55.33  | -2.92     | 0.96                      | 0.97   | -1.10     |
|         |            |             |            | 905             | 52.62                                  | 55.00  | -4.33     | 1.06                      | 1.05   | 0.52      |
| E       | 1/23/2017  | 835         | Body       | 835             | 53.75                                  | 55.20  | -2.63     | 0.99                      | 0.97   | 1.86      |
|         |            |             |            | 805             | 54.07                                  | 55.33  | -2.29     | 0.96                      | 0.97   | -1.15     |
|         |            |             |            | 905             | 52.98                                  | 55.00  | -3.67     | 1.06                      | 1.05   | 0.33      |
| F       | 1/11/2017  | 1900        | Body       | 1900            | 51.13                                  | 53.30  | -4.07     | 1.55                      | 1.52   | 1.78      |
|         |            |             |            | 1850            | 51.27                                  | 53.30  | -3.82     | 1.51                      | 1.52   | -0.92     |
|         |            |             |            | 1920            | 51.06                                  | 53.30  | -4.20     | 1.56                      | 1.52   | 2.89      |
| F       | 1/17/2017  | 1900        | Body       | 1900            | 50.74                                  | 53.30  | -4.80     | 1.58                      | 1.52   | 3.68      |
|         |            |             |            | 1850            | 50.83                                  | 53.30  | -4.63     | 1.53                      | 1.52   | 0.86      |
|         |            |             |            | 1920            | 50.69                                  | 53.30  | -4.90     | 1.59                      | 1.52   | 4.87      |
| F       | 1/19/2017  | 835         | Body       | 835             | 53.48                                  | 55.20  | -3.12     | 1.01                      | 0.97   | 3.92      |
|         |            |             |            | 805             | 53.81                                  | 55.33  | -2.76     | 0.98                      | 0.97   | 1.10      |
|         |            |             |            | 905             | 52.70                                  | 55.00  | -4.18     | 1.08                      | 1.05   | 2.42      |
| G       | 1/9/2017   | 1750        | Body       | 1750            | 52.44                                  | 53.44  | -1.87     | 1.53                      | 1.49   | 2.75      |
|         |            |             |            | 1710            | 52.55                                  | 53.54  | -1.86     | 1.49                      | 1.46   | 1.95      |
|         |            |             |            | 1755            | 52.42                                  | 53.43  | -1.89     | 1.53                      | 1.49   | 2.80      |
| G       | 1/12/2017  | 1750        | Body       | 1750            | 52.82                                  | 53.44  | -1.16     | 1.52                      | 1.49   | 1.94      |
|         |            |             |            | 1710            | 53.05                                  | 53.54  | -0.92     | 1.48                      | 1.46   | 1.13      |
|         |            |             |            | 1755            | 52.74                                  | 53.43  | -1.29     | 1.52                      | 1.49   | 1.80      |
| H       | 12/22/2016 | 5200        | Body       | 5200            | 47.27                                  | 49.02  | -3.57     | 5.45                      | 5.29   | 2.86      |
|         |            |             |            | 5150            | 47.42                                  | 49.09  | -3.40     | 5.38                      | 5.24   | 2.68      |
|         |            |             |            | 5350            | 47.03                                  | 48.82  | -3.66     | 5.64                      | 5.47   | 3.10      |
| H       | 12/27/2016 | 5200        | Body       | 5200            | 48.38                                  | 49.02  | -1.30     | 5.41                      | 5.29   | 2.20      |
|         |            |             |            | 5150            | 48.47                                  | 49.09  | -1.26     | 5.34                      | 5.24   | 1.94      |
|         |            |             |            | 5350            | 48.12                                  | 48.82  | -1.43     | 5.61                      | 5.47   | 2.60      |
| H       | 1/3/2017   | 5800        | Body       | 5800            | 48.08                                  | 48.20  | -0.25     | 6.11                      | 6.00   | 1.82      |
|         |            |             |            | 5700            | 48.18                                  | 48.34  | -0.34     | 5.95                      | 5.88   | 1.27      |
|         |            |             |            | 5850            | 47.94                                  | 48.20  | -0.54     | 6.17                      | 6.00   | 2.77      |
| H       | 1/17/2017  | 835         | Body       | 835             | 53.65                                  | 55.20  | -2.81     | 1.00                      | 0.97   | 3.40      |
|         |            |             |            | 805             | 54.00                                  | 55.33  | -2.41     | 0.97                      | 0.97   | 0.27      |
|         |            |             |            | 905             | 52.88                                  | 55.00  | -3.85     | 1.07                      | 1.05   | 1.76      |

## 8.2. System Check

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

### System Performance Check Measurement Conditions:

- The measurements were performed in the flat section of the TWIN SAM or ELI phantom, shell thickness:  $2.0 \pm 0.2$  mm (bottom plate) filled with Body or Head simulating liquid of the following parameters.
- The depth of tissue-equivalent liquid in a phantom must be  $\geq 15.0$  cm for SAR measurements  $\leq 3$  GHz and  $\geq 10.0$  cm for measurements  $> 3$  GHz.
- The DASY system with an E-Field Probe was used for the measurements.
- The dipole was mounted on the small tripod so that the dipole feed point was positioned below the center marking of the flat phantom section and the dipole was oriented parallel to the body axis (the long side of the phantom). The standard measuring distance was 10 mm (above 1 GHz) and 15 mm (below 1 GHz) from dipole center to the simulating liquid surface.
- The coarse grid with a grid spacing of 15 mm was aligned with the dipole.  
For 5 GHz band - The coarse grid with a grid spacing of 10 mm was aligned with the dipole.
- Special 7x7x7 (below 3 GHz) and/or 8x8x7 (above 3 GHz) fine cube was chosen for the cube.
- Distance between probe sensors and phantom surface was set to 3 mm.  
For 5 GHz band - Distance between probe sensors and phantom surface was set to 2.5 mm
- The dipole input power (forward power) was 100 mW.
- The results are normalized to 1 W input power.

**System Check Results**

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

| SAR Lab | Date       | Tissue Type | Dipole Type<br>_Serial #  | Dipole<br>Cal. Due Data | Measured Results for 1g SAR |                     |                        |                | Measured Results for 10g SAR |                     |                        |                | Plot No. |
|---------|------------|-------------|---------------------------|-------------------------|-----------------------------|---------------------|------------------------|----------------|------------------------------|---------------------|------------------------|----------------|----------|
|         |            |             |                           |                         | Zoom Scan<br>to 100 mW      | Normalize<br>to 1 W | Target<br>(Ref. Value) | Delta<br>±10 % | Zoom Scan<br>to 100 mW       | Normalize<br>to 1 W | Target<br>(Ref. Value) | Delta<br>±10 % |          |
| A       | 12/27/2016 | Body        | D5GHzV2 SN:1003 (5.6 GHz) | 2/25/2017               | 8.260                       | 82.60               | 79.80                  | 3.51           | 2.270                        | 22.70               | 22.40                  | 1.34           | 1,2      |
| A       | 1/17/2017  | Body        | D750V3 SN:1019            | 3/16/2017               | 0.891                       | 8.91                | 8.56                   | 4.09           | 0.593                        | 5.93                | 5.68                   | 4.40           | 3,4      |
| B       | 1/17/2017  | Body        | D2600V2 SN:1006           | 9/13/2017               | 5.570                       | 55.70               | 54.20                  | 2.77           | 2.410                        | 24.10               | 24.30                  | -0.82          |          |
| B       | 1/23/2017  | Body        | D2600V2 SN:1006           | 9/13/2017               | 5.900                       | 59.00               | 54.20                  | 8.86           | 2.570                        | 25.70               | 24.30                  | 5.76           | 5,6      |
| C       | 1/26/2017  | Body        | D1900V2 SN:5d140          | 4/12/2017               | 3.800                       | 38.00               | 39.30                  | -3.31          | 1.970                        | 19.70               | 20.80                  | -5.29          | 7,8      |
| D       | 1/9/2017   | Body        | D2450V2 SN:899            | 3/15/2017               | 4.930                       | 49.30               | 49.60                  | -0.60          | 2.240                        | 22.40               | 23.40                  | -4.27          | 9,10     |
| D       | 1/13/2017  | Body        | D2300V2 SN:1002           | 3/18/2017               | 4.780                       | 47.80               | 47.50                  | 0.63           | 2.280                        | 22.80               | 23.10                  | -1.30          |          |
| D       | 1/17/2017  | Body        | D2300V2 SN:1002           | 3/18/2017               | 4.620                       | 46.20               | 47.50                  | -2.74          | 2.170                        | 21.70               | 23.10                  | -6.06          | 11,12    |
| D       | 1/17/2017  | Body        | D2600V2 SN:1006           | 9/13/2017               | 5.530                       | 55.30               | 54.20                  | 2.03           | 2.360                        | 23.60               | 24.30                  | -2.88          | 13,14    |
| D       | 2/21/2017  | Body        | D2600V2 SN:1036           | 3/18/2017               | 5.760                       | 57.60               | 53.40                  | 7.87           | 2.500                        | 25.00               | 23.80                  | 5.04           | 15,16    |
| E       | 12/22/2016 | Body        | D5GHzV2 SN:1138 (5.8 GHz) | 9/22/2017               | 7.130                       | 71.30               | 75.70                  | -5.81          | 2.010                        | 20.10               | 21.10                  | -4.74          |          |
| E       | 12/27/2016 | Body        | D5GHzV2 SN:1138 (5.8 GHz) | 9/22/2017               | 7.040                       | 70.40               | 75.70                  | -7.00          | 1.960                        | 19.60               | 21.10                  | -7.11          | 17,18    |
| E       | 1/17/2017  | Body        | D835V2 SN:4d142           | 9/22/2017               | 0.983                       | 9.83                | 9.32                   | 5.47           | 0.648                        | 6.48                | 6.18                   | 4.85           |          |
| E       | 1/23/2017  | Body        | D835V2 SN:4d142           | 9/22/2017               | 1.010                       | 10.10               | 9.32                   | 8.37           | 0.666                        | 6.66                | 6.18                   | 7.77           | 19,20    |
| F       | 1/11/2017  | Body        | D1900V2 SN:5d043          | 11/9/2017               | 4.020                       | 40.20               | 39.10                  | 2.81           | 2.080                        | 20.80               | 20.70                  | 0.48           |          |
| F       | 1/17/2017  | Body        | D1900V2 SN:5d043          | 11/9/2017               | 4.110                       | 41.10               | 39.10                  | 5.12           | 2.110                        | 21.10               | 20.70                  | 1.93           | 21,22    |
| F       | 1/19/2017  | Body        | D835V2 SN:4d002           | 11/8/2017               | 0.940                       | 9.40                | 9.55                   | -1.57          | 0.619                        | 6.19                | 6.33                   | -2.21          | 23,24    |
| G       | 1/9/2017   | Body        | D1750V2 SN:1050           | 4/13/2017               | 3.810                       | 38.10               | 36.20                  | 5.25           | 2.000                        | 20.00               | 19.30                  | 3.63           |          |
| G       | 1/12/2017  | Body        | D1750V2 SN:1050           | 4/13/2017               | 3.920                       | 39.20               | 36.20                  | 8.29           | 2.060                        | 20.60               | 19.30                  | 6.74           | 25,26    |
| H       | 12/22/2016 | Body        | D5GHzV2 SN:1138 (5.2 GHz) | 9/22/2017               | 7.890                       | 78.90               | 74.20                  | 6.33           | 2.200                        | 22.00               | 20.90                  | 5.26           | 27,28    |
| H       | 12/27/2016 | Body        | D5GHzV2 SN:1168 (5.2 GHz) | 11/14/2017              | 7.560                       | 75.60               | 73.60                  | 2.72           | 2.120                        | 21.20               | 20.50                  | 3.41           | 29,30    |
| H       | 1/3/2017   | Body        | D5GHzV2 SN:1168 (5.8 GHz) | 11/14/2017              | 7.120                       | 71.20               | 73.90                  | -3.65          | 1.990                        | 19.90               | 20.50                  | -2.93          | 31,32    |
| H       | 1/17/2017  | Body        | D835V2 SN:4d002           | 11/8/2017               | 1.030                       | 10.30               | 9.55                   | 7.85           | 0.676                        | 6.76                | 6.33                   | 6.79           | 33,34    |

## 9. Conducted Output Power Measurements

### 9.1. GSM

Per KDB 941225 D01 3G SAR Procedures:

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

#### GSM850 Measured Results

| Mode         | Coding Scheme | Time Slots | Ch No. | Freq. (MHz) | Max. Power  |             |             |             | Reduced Power |             |             |             |
|--------------|---------------|------------|--------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|
|              |               |            |        |             | Antenna C   |             | Antenna D   |             | Antenna C     |             | Antenna D   |             |
|              |               |            |        |             | Burst (dBm) | Frame (dBm) | Burst (dBm) | Frame (dBm) | Burst (dBm)   | Frame (dBm) | Burst (dBm) | Frame (dBm) |
| GPRS (GMSK)  | CS1           | 1          | 128    | 824.2       | 33.4        | 24.4        | 32.0        | 23.0        | 27.9          | 18.9        | 26.9        | 17.9        |
|              |               |            | 190    | 836.6       | 33.5        | 24.5        | 31.9        | 22.9        | 28.0          | 19.0        | 27.0        | 18.0        |
|              |               |            | 251    | 848.8       | 33.4        | 24.4        | 31.9        | 22.9        | 28.0          | 19.0        | 27.0        | 18.0        |
|              |               | 2          | 128    | 824.2       | 32.4        | 26.4        | 31.0        | 25.0        | 25.0          | 19.0        | 24.0        | 18.0        |
|              |               |            | 190    | 836.6       | 32.5        | 26.5        | 30.9        | 24.9        | 25.0          | 19.0        | 24.0        | 18.0        |
|              |               |            | 251    | 848.8       | 32.4        | 26.4        | 30.9        | 24.9        | 25.0          | 19.0        | 24.0        | 18.0        |
| EGPRS (8PSK) | MCS5          | 1          | 128    | 824.2       | 27.9        | 18.9        | 26.0        | 17.0        | 27.5          | 18.5        | 26.8        | 17.8        |
|              |               |            | 190    | 836.6       | 27.9        | 18.9        | 25.8        | 16.8        | 27.6          | 18.6        | 26.9        | 17.9        |
|              |               |            | 251    | 848.8       | 28.0        | 19.0        | 25.9        | 16.9        | 27.5          | 18.5        | 26.8        | 17.8        |
|              |               | 2          | 128    | 824.2       | 27.8        | 21.8        | 25.9        | 19.9        | 24.9          | 18.9        | 24.0        | 18.0        |
|              |               |            | 190    | 836.6       | 27.8        | 21.8        | 25.8        | 19.8        | 24.8          | 18.8        | 24.0        | 18.0        |
|              |               |            | 251    | 848.8       | 27.8        | 21.8        | 25.8        | 19.8        | 24.8          | 18.8        | 24.0        | 18.0        |

#### Notes:

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

- GMSK (GPRS) mode with 2 time slots for Reduced power based on the Tune-up Procedure. Refer to §6.3.
- SAR is not required for EGPRS (8PSK) mode because the Reduced power and tune-up limit is  $\leq 1/4\text{db}$  higher than GMSK GPRS or the adjusted SAR of the highest reported SAR of GMSK GPRS is  $\leq 1.2\text{W/kg}$ .

#### GSM1900 Measured Results

| Mode         | Coding Scheme | Time Slots | Ch No. | Freq. (MHz) | Max. Power  |             |             |             | Reduced Power |             |             |             |
|--------------|---------------|------------|--------|-------------|-------------|-------------|-------------|-------------|---------------|-------------|-------------|-------------|
|              |               |            |        |             | Antenna C   |             | Antenna D   |             | Antenna C     |             | Antenna D   |             |
|              |               |            |        |             | Burst (dBm) | Frame (dBm) | Burst (dBm) | Frame (dBm) | Burst (dBm)   | Frame (dBm) | Burst (dBm) | Frame (dBm) |
| GPRS (GMSK)  | CS1           | 1          | 512    | 1850.2      | 29.4        | 20.4        | 27.5        | 18.5        | 21.7          | 12.7        | 23.8        | 14.8        |
|              |               |            | 661    | 1880.0      | 29.4        | 20.4        | 27.4        | 18.4        | 21.7          | 12.7        | 23.7        | 14.7        |
|              |               |            | 810    | 1909.8      | 29.5        | 20.5        | 27.3        | 18.3        | 21.7          | 12.7        | 23.8        | 14.8        |
|              |               | 2          | 512    | 1850.2      | 29.3        | 23.3        | 26.5        | 20.5        | 18.8          | 12.8        | 20.8        | 14.8        |
|              |               |            | 661    | 1880.0      | 29.3        | 23.3        | 26.4        | 20.4        | 18.7          | 12.7        | 20.7        | 14.7        |
|              |               |            | 810    | 1909.8      | 29.4        | 23.4        | 26.4        | 20.4        | 18.8          | 12.8        | 20.8        | 14.8        |
| EGPRS (8PSK) | MCS5          | 1          | 512    | 1850.2      | 27.0        | 18.0        | 24.0        | 15.0        | 21.8          | 12.8        | 23.6        | 14.6        |
|              |               |            | 661    | 1880.0      | 26.9        | 17.9        | 23.9        | 14.9        | 21.8          | 12.8        | 23.4        | 14.4        |
|              |               |            | 810    | 1909.8      | 26.8        | 17.8        | 23.8        | 14.8        | 21.8          | 12.8        | 23.3        | 14.3        |
|              |               | 2          | 512    | 1850.2      | 26.8        | 20.8        | 21.6        | 15.6        | 18.8          | 12.8        | 20.8        | 14.8        |
|              |               |            | 661    | 1880.0      | 26.8        | 20.8        | 21.5        | 15.5        | 18.8          | 12.8        | 20.6        | 14.6        |
|              |               |            | 810    | 1909.8      | 26.7        | 20.7        | 21.5        | 15.5        | 18.8          | 12.8        | 20.6        | 14.6        |

#### Notes:

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

- GMSK (GPRS) mode with 2 time slots for Reduced power based on the Tune-up Procedure. Refer to §6.3.
- SAR is not required for EGPRS (8PSK) mode because the Reduced power and tune-up limit is  $\leq 1/4\text{db}$  higher than GMSK GPRS or the adjusted SAR of the highest reported SAR of GMSK GPRS is  $\leq 1.2\text{W/kg}$ .

## 9.2. W-CDMA

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

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

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

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

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

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

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

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

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

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

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

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

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

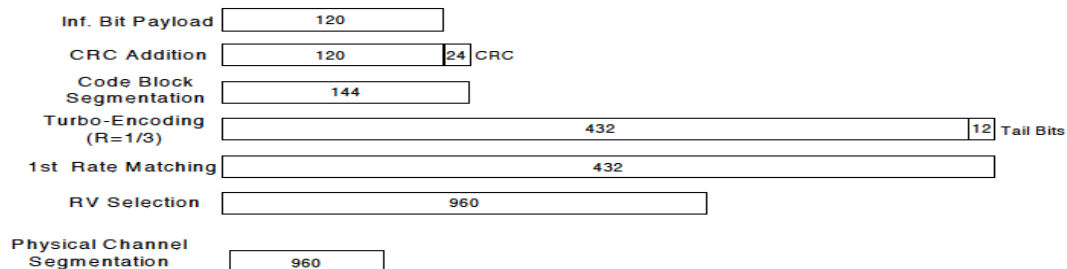
| Parameter During Connection setup | Unit | Value |
|-----------------------------------|------|-------|
| P-CPICH_Ec/Ior                    | dB   | -10   |
| P-CCPCH and SCH_Ec/Ior            | dB   | -12   |
| PICH_Ec/Ior                       | dB   | -15   |
| HS-PDSCH                         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

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

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

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

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

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

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

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

**HSPA+**

Since 16QAM is not used for uplink, the uplink Category and release is same as HSUPA, i.e., Rel. 7 Therefore, the RF conducted power is not measured.

**W-CDMA Band II Measured Results**

| Band           | Mode     |                | UL Ch No. | Freq. (MHz) | MPR (dB) | Max. Power          |                     | Reduced Power       |                     |
|----------------|----------|----------------|-----------|-------------|----------|---------------------|---------------------|---------------------|---------------------|
|                |          |                |           |             |          | Antenna C Pwr (dBm) | Antenna D Pwr (dBm) | Antenna C Pwr (dBm) | Antenna D Pwr (dBm) |
| W-CDMA Band II | Rel 99   | RMC, 12.2 kbps | 9262      | 1852.4      | N/A      | 25.4                | 23.9                | 12.3                | 13.8                |
|                |          |                | 9400      | 1880.0      | N/A      | 25.4                | 24.0                | 12.3                | 14.0                |
|                |          |                | 9538      | 1907.6      | N/A      | 25.5                | 23.9                | 12.3                | 13.8                |
|                | HSDPA    | Subtest 1      | 9262      | 1852.4      | 0.0      | 24.5                | 23.0                | 12.3                | 14.0                |
|                |          |                | 9400      | 1880.0      | 0.0      | 24.6                | 22.9                | 12.3                | 14.0                |
|                |          |                | 9538      | 1907.6      | 0.0      | 24.4                | 22.8                | 12.3                | 14.0                |
|                |          | Subtest 2      | 9262      | 1852.4      | 0.0      | 24.4                | 23.0                | 12.3                | 14.0                |
|                |          |                | 9400      | 1880.0      | 0.0      | 24.4                | 22.8                | 12.3                | 14.0                |
|                |          |                | 9538      | 1907.6      | 0.0      | 24.4                | 22.8                | 12.3                | 14.0                |
|                |          | Subtest 3      | 9262      | 1852.4      | 0.5      | 24.0                | 22.6                | 11.8                | 13.5                |
|                |          |                | 9400      | 1880.0      | 0.5      | 24.0                | 22.5                | 11.7                | 13.5                |
|                |          |                | 9538      | 1907.6      | 0.5      | 23.9                | 22.5                | 11.8                | 13.5                |
|                |          | Subtest 4      | 9262      | 1852.4      | 0.5      | 23.9                | 22.5                | 11.7                | 13.5                |
|                |          |                | 9400      | 1880.0      | 0.5      | 24.0                | 22.4                | 11.7                | 13.5                |
|                |          |                | 9538      | 1907.6      | 0.5      | 23.9                | 22.5                | 11.8                | 13.4                |
|                | HSUPA    | Subtest 1      | 9262      | 1852.4      | 0.0      | 24.5                | 22.9                | 11.7                | 13.9                |
|                |          |                | 9400      | 1880.0      | 0.0      | 24.4                | 23.0                | 11.5                | 13.9                |
|                |          |                | 9538      | 1907.6      | 0.0      | 24.6                | 22.9                | 11.7                | 13.9                |
|                |          | Subtest 2      | 9262      | 1852.4      | 2.0      | 22.6                | 21.0                | 10.3                | 12.0                |
|                |          |                | 9400      | 1880.0      | 2.0      | 22.5                | 21.1                | 10.2                | 11.9                |
|                |          |                | 9538      | 1907.6      | 2.0      | 22.5                | 21.1                | 10.3                | 11.9                |
|                |          | Subtest 3      | 9262      | 1852.4      | 1.0      | 23.6                | 22.1                | 11.2                | 13.0                |
|                |          |                | 9400      | 1880.0      | 1.0      | 23.5                | 22.1                | 11.2                | 12.9                |
|                |          |                | 9538      | 1907.6      | 1.0      | 23.5                | 22.0                | 11.2                | 12.9                |
|                |          | Subtest 4      | 9262      | 1852.4      | 2.0      | 22.4                | 21.0                | 10.3                | 11.9                |
|                |          |                | 9400      | 1880.0      | 2.0      | 22.5                | 21.0                | 10.3                | 11.8                |
|                |          |                | 9538      | 1907.6      | 2.0      | 22.5                | 21.0                | 10.2                | 11.9                |
|                |          | Subtest 5      | 9262      | 1852.4      | 0.0      | 24.5                | 22.9                | 12.3                | 13.9                |
|                |          |                | 9400      | 1880.0      | 0.0      | 24.4                | 22.9                | 12.2                | 13.8                |
|                |          |                | 9538      | 1907.6      | 0.0      | 24.5                | 22.9                | 12.3                | 13.8                |
|                | DC-HSDPA | Subtest 1      | 9262      | 1852.4      | 0.0      | 24.5                | 23.0                | 12.3                | 14.0                |
|                |          |                | 9400      | 1880.0      | 0.0      | 24.4                | 22.9                | 12.3                | 14.0                |
|                |          |                | 9538      | 1907.6      | 0.0      | 24.5                | 22.9                | 12.3                | 14.0                |
|                |          | Subtest 2      | 9262      | 1852.4      | 0.0      | 24.4                | 22.9                | 12.3                | 14.0                |
|                |          |                | 9400      | 1880.0      | 0.0      | 24.4                | 22.9                | 12.3                | 14.0                |
|                |          |                | 9538      | 1907.6      | 0.0      | 24.5                | 22.8                | 12.3                | 14.0                |
|                |          | Subtest 3      | 9262      | 1852.4      | 0.5      | 24.0                | 22.5                | 11.7                | 13.5                |
|                |          |                | 9400      | 1880.0      | 0.5      | 24.0                | 22.6                | 11.7                | 13.5                |
|                |          |                | 9538      | 1907.6      | 0.5      | 24.0                | 22.6                | 11.8                | 13.4                |
|                |          | Subtest 4      | 9262      | 1852.4      | 0.5      | 23.9                | 22.5                | 11.7                | 13.5                |
|                |          |                | 9400      | 1880.0      | 0.5      | 23.9                | 22.4                | 11.7                | 13.5                |
|                |          |                | 9538      | 1907.6      | 0.5      | 24.0                | 22.5                | 11.8                | 13.4                |

**W-CDMA Band IV Measured Results**

| Band           | Mode     |                | UL Ch No. | Freq. (MHz) | MPR (dB) | Max. Power          |                     | Reduced Power       |                     |
|----------------|----------|----------------|-----------|-------------|----------|---------------------|---------------------|---------------------|---------------------|
|                |          |                |           |             |          | Antenna C Pwr (dBm) | Antenna D Pwr (dBm) | Antenna C Pwr (dBm) | Antenna D Pwr (dBm) |
| W-CDMA Band IV | Rel 99   | RMC, 12.2 kbps | 1312      | 1712.4      | N/A      | 25.5                | 25.5                | 13.0                | 13.3                |
|                |          |                | 1413      | 1732.6      | N/A      | 25.5                | 25.4                | 13.0                | 13.2                |
|                |          |                | 1513      | 1752.6      | N/A      | 25.4                | 25.4                | 13.0                | 13.2                |
|                | HSDPA    | Subtest 1      | 1312      | 1712.4      | 0        | 24.5                | 24.5                | 13.0                | 13.3                |
|                |          |                | 1413      | 1732.6      | 0        | 24.6                | 24.3                | 13.0                | 13.3                |
|                |          |                | 1513      | 1752.6      | 0        | 24.4                | 24.4                | 13.0                | 13.2                |
|                |          | Subtest 2      | 1312      | 1712.4      | 0        | 24.5                | 24.5                | 13.0                | 13.3                |
|                |          |                | 1413      | 1732.6      | 0        | 24.5                | 24.4                | 13.0                | 13.3                |
|                |          |                | 1513      | 1752.6      | 0        | 24.4                | 24.4                | 13.0                | 13.3                |
|                |          | Subtest 3      | 1312      | 1712.4      | 0.5      | 24.0                | 24.0                | 12.5                | 12.8                |
|                |          |                | 1413      | 1732.6      | 0.5      | 24.0                | 24.0                | 12.5                | 12.8                |
|                |          |                | 1513      | 1752.6      | 0.5      | 24.0                | 24.0                | 12.4                | 12.7                |
|                |          | Subtest 4      | 1312      | 1712.4      | 0.5      | 23.8                | 24.0                | 12.5                | 12.8                |
|                |          |                | 1413      | 1732.6      | 0.5      | 23.9                | 24.0                | 12.5                | 12.8                |
|                |          |                | 1513      | 1752.6      | 0.5      | 24.0                | 23.9                | 12.5                | 12.7                |
|                | HSUPA    | Subtest 1      | 1312      | 1712.4      | 0        | 24.5                | 24.5                | 13.0                | 13.2                |
|                |          |                | 1413      | 1732.6      | 0        | 24.4                | 24.4                | 13.0                | 13.3                |
|                |          |                | 1513      | 1752.6      | 0        | 24.4                | 24.4                | 13.0                | 13.3                |
|                |          | Subtest 2      | 1312      | 1712.4      | 2        | 22.4                | 22.5                | 11.0                | 11.3                |
|                |          |                | 1413      | 1732.6      | 2        | 22.5                | 22.6                | 11.0                | 11.2                |
|                |          |                | 1513      | 1752.6      | 2        | 22.4                | 22.4                | 11.0                | 11.3                |
|                |          | Subtest 3      | 1312      | 1712.4      | 1        | 23.4                | 23.5                | 12.0                | 12.3                |
|                |          |                | 1413      | 1732.6      | 1        | 23.5                | 23.4                | 12.0                | 12.3                |
|                |          |                | 1513      | 1752.6      | 1        | 23.4                | 23.5                | 12.0                | 12.2                |
|                |          | Subtest 4      | 1312      | 1712.4      | 2        | 22.4                | 22.4                | 11.0                | 11.3                |
|                |          |                | 1413      | 1732.6      | 2        | 22.4                | 22.5                | 11.0                | 11.2                |
|                |          |                | 1513      | 1752.6      | 2        | 22.4                | 22.5                | 11.0                | 11.2                |
|                |          | Subtest 5      | 1312      | 1712.4      | 0        | 24.4                | 24.4                | 13.0                | 13.3                |
|                |          |                | 1413      | 1732.6      | 0        | 24.4                | 24.4                | 13.0                | 13.3                |
|                |          |                | 1513      | 1752.6      | 0        | 24.4                | 24.4                | 13.0                | 13.3                |
|                | DC-HSDPA | Subtest 1      | 1312      | 1712.4      | 0        | 24.4                | 24.5                | 13.0                | 13.3                |
|                |          |                | 1413      | 1732.6      | 0        | 24.5                | 24.3                | 13.0                | 13.3                |
|                |          |                | 1513      | 1752.6      | 0        | 24.5                | 24.4                | 13.0                | 13.2                |
|                |          | Subtest 2      | 1312      | 1712.4      | 0        | 24.4                | 24.4                | 12.9                | 13.3                |
|                |          |                | 1413      | 1732.6      | 0        | 24.4                | 24.3                | 13.0                | 13.3                |
|                |          |                | 1513      | 1752.6      | 0        | 24.5                | 24.4                | 12.9                | 13.3                |
|                |          | Subtest 3      | 1312      | 1712.4      | 1        | 24.0                | 24.0                | 12.5                | 12.8                |
|                |          |                | 1413      | 1732.6      | 1        | 24.0                | 24.0                | 12.4                | 12.8                |
|                |          |                | 1513      | 1752.6      | 1        | 24.0                | 23.9                | 12.4                | 12.7                |
|                |          | Subtest 4      | 1312      | 1712.4      | 1        | 24.0                | 24.0                | 12.5                | 12.8                |
|                |          |                | 1413      | 1732.6      | 1        | 23.9                | 23.9                | 12.5                | 12.8                |
|                |          |                | 1513      | 1752.6      | 1        | 23.9                | 24.0                | 12.5                | 12.7                |

**W-CDMA Band V Measured Results**

| Band          | Mode     |                | UL Ch No. | Freq. (MHz) | MPR (dB) | Max. Power          |                     | Reduced Power       |                     |
|---------------|----------|----------------|-----------|-------------|----------|---------------------|---------------------|---------------------|---------------------|
|               |          |                |           |             |          | Antenna C Pwr (dBm) | Antenna D Pwr (dBm) | Antenna C Pwr (dBm) | Antenna D Pwr (dBm) |
| W-CDMA Band V | Rel 99   | RMC, 12.2 kbps | 4132      | 826.4       | N/A      | 25.5                | 24.9                | 18.5                | 17.0                |
|               |          |                | 4183      | 836.6       | N/A      | 25.5                | 25.0                | 18.5                | 17.0                |
|               |          |                | 4233      | 846.6       | N/A      | 25.4                | 24.9                | 18.5                | 17.0                |
|               | HSDPA    | Subtest 1      | 4132      | 826.4       | 0.0      | 24.5                | 24.0                | 18.3                | 17.0                |
|               |          |                | 4183      | 836.6       | 0.0      | 24.4                | 23.8                | 18.2                | 17.0                |
|               |          |                | 4233      | 846.6       | 0.0      | 24.4                | 23.9                | 18.3                | 17.0                |
|               |          | Subtest 2      | 4132      | 826.4       | 0.0      | 24.5                | 24.0                | 18.3                | 17.0                |
|               |          |                | 4183      | 836.6       | 0.0      | 24.4                | 23.9                | 18.2                | 17.0                |
|               |          |                | 4233      | 846.6       | 0.0      | 24.4                | 24.0                | 18.3                | 16.9                |
|               |          | Subtest 3      | 4132      | 826.4       | 0.5      | 24.0                | 23.5                | 17.8                | 16.5                |
|               |          |                | 4183      | 836.6       | 0.5      | 23.9                | 23.4                | 17.8                | 16.5                |
|               |          |                | 4233      | 846.6       | 0.5      | 23.9                | 23.4                | 17.8                | 16.5                |
|               |          | Subtest 4      | 4132      | 826.4       | 0.5      | 24.0                | 23.6                | 17.7                | 16.4                |
|               |          |                | 4183      | 836.6       | 0.5      | 24.0                | 23.5                | 17.7                | 16.5                |
|               |          |                | 4233      | 846.6       | 0.5      | 23.9                | 23.5                | 17.7                | 16.4                |
|               | HSUPA    | Subtest 1      | 4132      | 826.4       | 0.0      | 24.4                | 24.0                | 18.3                | 17.0                |
|               |          |                | 4183      | 836.6       | 0.0      | 24.5                | 23.9                | 18.3                | 17.0                |
|               |          |                | 4233      | 846.6       | 0.0      | 24.4                | 23.9                | 18.3                | 16.9                |
|               |          | Subtest 2      | 4132      | 826.4       | 2.0      | 22.5                | 22.0                | 16.3                | 14.9                |
|               |          |                | 4183      | 836.6       | 2.0      | 22.4                | 21.9                | 16.3                | 15.0                |
|               |          |                | 4233      | 846.6       | 2.0      | 22.5                | 22.0                | 16.3                | 15.0                |
|               |          | Subtest 3      | 4132      | 826.4       | 1.0      | 23.5                | 23.0                | 17.2                | 15.9                |
|               |          |                | 4183      | 836.6       | 1.0      | 23.6                | 23.0                | 17.2                | 15.9                |
|               |          |                | 4233      | 846.6       | 1.0      | 23.5                | 23.1                | 17.2                | 15.9                |
|               |          | Subtest 4      | 4132      | 826.4       | 2.0      | 22.4                | 22.0                | 16.3                | 14.9                |
|               |          |                | 4183      | 836.6       | 2.0      | 22.5                | 21.9                | 16.3                | 14.9                |
|               |          |                | 4233      | 846.6       | 2.0      | 22.5                | 22.4                | 16.3                | 15.0                |
|               |          | Subtest 5      | 4132      | 826.4       | 0.0      | 24.4                | 23.9                | 18.2                | 17.0                |
|               |          |                | 4183      | 836.6       | 0.0      | 24.4                | 23.9                | 18.2                | 16.9                |
|               |          |                | 4233      | 846.6       | 0.0      | 24.4                | 23.9                | 18.2                | 17.0                |
|               | DC-HSDPA | Subtest 1      | 4132      | 826.4       | 0.0      | 24.4                | 23.9                | 18.2                | 17.0                |
|               |          |                | 4183      | 836.6       | 0.0      | 24.5                | 24.0                | 18.2                | 17.0                |
|               |          |                | 4233      | 846.6       | 0.0      | 24.4                | 23.9                | 18.2                | 17.0                |
|               |          | Subtest 2      | 4132      | 826.4       | 0.0      | 24.4                | 23.9                | 18.3                | 17.0                |
|               |          |                | 4183      | 836.6       | 0.0      | 24.4                | 23.9                | 18.3                | 17.0                |
|               |          |                | 4233      | 846.6       | 0.0      | 24.4                | 23.8                | 18.2                | 17.0                |
|               |          | Subtest 3      | 4132      | 826.4       | 0.5      | 24.0                | 23.5                | 17.8                | 16.5                |
|               |          |                | 4183      | 836.6       | 0.5      | 24.0                | 23.4                | 17.7                | 16.5                |
|               |          |                | 4233      | 846.6       | 0.5      | 23.9                | 23.4                | 17.8                | 16.4                |
|               |          | Subtest 4      | 4132      | 826.4       | 0.5      | 24.0                | 23.5                | 17.8                | 16.5                |
|               |          |                | 4183      | 836.6       | 0.5      | 24.0                | 23.4                | 17.8                | 16.5                |
|               |          |                | 4233      | 846.6       | 0.5      | 23.9                | 23.4                | 17.7                | 16.4                |

### 9.3. CDMA

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

##### Call box setup procedure

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

#### CDMA BC0 Measured Results

| Band | Mode          |                                                              | Ch No. | Freq. (MHz) | Max. Power          |                     | Reduced Power       |                     |
|------|---------------|--------------------------------------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|
|      |               |                                                              |        |             | Antenna C Pwr (dBm) | Antenna D Pwr (dBm) | Antenna C Pwr (dBm) | Antenna D Pwr (dBm) |
| BC 0 | 1xRTT         | RC1 SO55 (Loopback)                                          | 1013   | 824.7       | 24.4                | 24.0                | 18.3                | 16.9                |
|      |               |                                                              | 384    | 836.5       | 24.5                | 23.9                | 18.4                | 16.9                |
|      |               |                                                              | 777    | 848.3       | 24.5                | 23.9                | 18.2                | 17.0                |
|      |               | RC3 SO55 (Loopback)                                          | 1013   | 824.7       | 24.5                | 23.9                | 18.4                | 16.8                |
|      |               |                                                              | 384    | 836.5       | 24.4                | 23.9                | 18.4                | 16.9                |
|      |               |                                                              | 777    | 848.3       | 24.5                | 23.8                | 18.3                | 17.0                |
|      |               | RC3 SO32 (+F-SCH)                                            | 1013   | 824.7       | 24.3                | 23.9                | 18.4                | 17.0                |
|      |               |                                                              | 384    | 836.5       | 24.4                | 23.8                | 18.4                | 17.0                |
|      |               |                                                              | 777    | 848.3       | 24.4                | 23.7                | 18.4                | 17.0                |
|      | 1xAdvanced    | Fwd11/Rvs8 SO75 (Loopback)                                   | 1013   | 824.7       | 24.4                | 23.9                | 18.4                | 16.9                |
|      |               |                                                              | 384    | 836.5       | 24.4                | 23.9                | 18.4                | 17.0                |
|      |               |                                                              | 777    | 848.3       | 24.4                | 23.7                | 18.3                | 17.0                |
|      | 1xEVDO Rel. 0 | FTAP Rate: 307.2 kbps(2 slot, QPSK)<br>RTAP Rate: 153.6 kbps | 1013   | 824.7       | 24.3                | 24.0                | 18.6                | 17.0                |
|      |               |                                                              | 384    | 836.5       | 24.5                | 23.9                | 18.5                | 17.0                |
|      |               |                                                              | 777    | 848.3       | 24.4                | 23.9                | 18.4                | 17.0                |
|      | 1xEVDO Rev. A | FETAP: 307.2k, QPSK/ ACK<br>RETAP: 4096                      | 1013   | 824.7       | 24.4                | 23.9                | 18.4                | 17.0                |
|      |               |                                                              | 384    | 836.5       | 24.5                | 24.0                | 18.2                | 16.8                |
|      |               |                                                              | 777    | 848.3       | 24.5                | 23.9                | 18.2                | 17.0                |

**CDMA BC1 Measured Results**

| Band | Mode          |                                                              | Ch No. | Freq. (MHz) | Max. Power          |                     | Reduced Power       |                     |
|------|---------------|--------------------------------------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|
|      |               |                                                              |        |             | Antenna C Pwr (dBm) | Antenna D Pwr (dBm) | Antenna C Pwr (dBm) | Antenna D Pwr (dBm) |
| BC 1 | 1xRTT         | RC1 SO55 (Loopback)                                          | 25     | 1851.3      | 25.8                | 23.3                | 12.2                | 13.9                |
|      |               |                                                              | 600    | 1880.0      | 25.8                | 23.3                | 12.2                | 13.8                |
|      |               |                                                              | 1175   | 1908.8      | 25.9                | 23.3                | 12.1                | 13.8                |
|      |               | RC3 SO55 (Loopback)                                          | 25     | 1851.3      | 25.9                | 23.2                | 12.2                | 13.9                |
|      |               |                                                              | 600    | 1880.0      | 25.8                | 23.3                | 12.2                | 13.8                |
|      |               |                                                              | 1175   | 1908.8      | 26.0                | 23.2                | 12.1                | 13.9                |
|      |               | RC3 SO32 (+F-SCH)                                            | 25     | 1851.3      | 25.9                | 23.3                | 12.1                | 14.0                |
|      |               |                                                              | 600    | 1880.0      | 25.8                | 23.3                | 12.3                | 14.0                |
|      |               |                                                              | 1175   | 1908.8      | 26.0                | 23.3                | 12.3                | 14.0                |
|      | 1xAdvanced    | Fwd11/Rvs8 SO75 (Loopback)                                   | 25     | 1851.3      | 25.8                | 23.3                | 12.2                | 13.9                |
|      |               |                                                              | 600    | 1880.0      | 25.8                | 23.3                | 12.2                | 13.8                |
|      |               |                                                              | 1175   | 1908.8      | 26.0                | 23.3                | 12.1                | 13.8                |
|      | 1xEVDO Rel. 0 | FTAP Rate: 307.2 kbps(2 slot, QPSK)<br>RTAP Rate: 153.6 kbps | 25     | 1851.3      | 25.9                | 23.4                | 12.3                | 14.0                |
|      |               |                                                              | 600    | 1880.0      | 25.9                | 23.3                | 12.3                | 14.0                |
|      |               |                                                              | 1175   | 1908.8      | 25.8                | 23.3                | 12.3                | 14.0                |
|      | 1xEVDO Rev. A | FETAP: 307.2k, QPSK/ ACK<br>RETAP: 4096                      | 25     | 1851.3      | 25.9                | 23.4                | 12.2                | 13.9                |
|      |               |                                                              | 600    | 1880.0      | 26.0                | 23.5                | 12.2                | 14.0                |
|      |               |                                                              | 1175   | 1908.8      | 25.9                | 23.5                | 12.1                | 14.0                |

**CDMA BC10 Measured Results**

| Band  | Mode          |                                                              | Ch No. | Freq. (MHz) | Max. Power          |                     | Reduced Power       |                     |
|-------|---------------|--------------------------------------------------------------|--------|-------------|---------------------|---------------------|---------------------|---------------------|
|       |               |                                                              |        |             | Antenna C Pwr (dBm) | Antenna D Pwr (dBm) | Antenna C Pwr (dBm) | Antenna D Pwr (dBm) |
| BC 10 | 1xRTT         | RC1 SO55 (Loopback)                                          | 476    | 817.9       | 25.9                | 23.9                | 18.5                | 16.9                |
|       |               |                                                              | 580    | 820.5       | 25.8                | 23.9                | 18.4                | 16.9                |
|       |               |                                                              | 670    | 822.8       | 25.7                | 23.9                | 18.4                | 16.8                |
|       |               | RC3 SO55 (Loopback)                                          | 476    | 817.9       | 25.8                | 23.9                | 18.4                | 16.9                |
|       |               |                                                              | 580    | 820.5       | 25.9                | 23.9                | 18.4                | 16.9                |
|       |               |                                                              | 670    | 822.8       | 25.9                | 23.8                | 18.4                | 16.8                |
|       |               | RC3 SO32 (+F-SCH)                                            | 476    | 817.9       | 25.8                | 23.9                | 18.5                | 16.8                |
|       |               |                                                              | 580    | 820.5       | 25.8                | 23.8                | 18.5                | 17.0                |
|       |               |                                                              | 670    | 822.8       | 25.9                | 23.9                | 18.5                | 17.0                |
|       | 1xAdvanced    | Fwd11/Rvs8 SO75 (Loopback)                                   | 476    | 817.9       | 25.8                | 23.8                | 18.3                | 17.0                |
|       |               |                                                              | 580    | 820.5       | 25.9                | 23.9                | 18.3                | 17.0                |
|       |               |                                                              | 670    | 822.8       | 25.9                | 23.9                | 18.5                | 16.9                |
|       | 1xEVDO Rel. 0 | FTAP Rate: 307.2 kbps(2 slot, QPSK)<br>RTAP Rate: 153.6 kbps | 476    | 817.9       | 25.8                | 23.9                | 18.5                | 17.0                |
|       |               |                                                              | 580    | 820.5       | 25.9                | 23.8                | 18.5                | 16.9                |
|       |               |                                                              | 670    | 822.8       | 25.9                | 23.8                | 18.4                | 17.0                |
|       | 1xEVDO Rev. A | FETAP: 307.2k, QPSK/ ACK<br>RETAP: 4096                      | 476    | 817.9       | 26.0                | 24.0                | 18.3                | 16.9                |
|       |               |                                                              | 580    | 820.5       | 25.9                | 23.9                | 18.3                | 17.0                |
|       |               |                                                              | 670    | 822.8       | 25.9                | 23.9                | 18.4                | 16.9                |

## 9.4. LTE

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

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

**Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3**

| Modulation | Channel bandwidth / Transmission 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      |
| 64 QAM     | > 5                                             | > 4     | > 8   | > 12   | > 16   | > 18   | ≤ 2      |

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

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

| Network Signalling value | Requirements (sub-clause) | E-UTRA Band              | Channel bandwidth (MHz) | Resources Blocks ( $N_{RB}$ ) | A-MPR (dB)    |
|--------------------------|---------------------------|--------------------------|-------------------------|-------------------------------|---------------|
| NS_01                    | 6.6.2.1.1                 | Table 5.5-1              | 1.4, 3, 5, 10, 15, 20   | Table 5.6-1                   | NA            |
| NS_03                    | 6.6.2.2.1                 | 2, 4, 10, 23, 25, 35, 36 | 3                       | >5                            | ≤ 1           |
|                          |                           |                          | 5                       | >6                            | ≤ 1           |
|                          |                           |                          | 10                      | >6                            | ≤ 1           |
|                          |                           |                          | 15                      | >8                            | ≤ 1           |
|                          |                           |                          | 20                      | >10                           | ≤ 1           |
| NS_04                    | 6.6.2.2.2                 | 41                       | 5                       | >6                            | ≤ 1           |
|                          |                           |                          | 10, 15, 20              | See Table 6.2.4-4             |               |
| NS_05                    | 6.6.3.3.1                 | 1                        | 10,15,20                | ≥ 50                          | ≤ 1           |
| NS_06                    | 6.6.2.2.3                 | 12, 13, 14, 17           | 1.4, 3, 5, 10           | Table 5.6-1                   | n/a           |
| NS_07                    | 6.6.2.2.3<br>6.6.3.3.2    | 13                       | 10                      | Table 6.2.4-2                 | Table 6.2.4-2 |
| NS_08                    | 6.6.3.3.3                 | 19                       | 10, 15                  | > 44                          | ≤ 3           |
| NS_09                    | 6.6.3.3.4                 | 21                       | 10, 15                  | > 40                          | ≤ 1           |
|                          |                           |                          |                         | > 55                          | ≤ 2           |
| NS_10                    |                           | 20                       | 15, 20                  | Table 6.2.4-3                 | Table 6.2.4-3 |
| NS_11                    | 6.6.2.2.1                 | 23 <sup>1</sup>          | 1.4, 3, 5, 10           | Table 6.2.4-5                 | Table 6.2.4-5 |
| ..                       |                           |                          |                         |                               |               |
| NS_32                    | -                         | -                        | -                       | -                             | -             |

Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.

**LTE Band 2 Measured Results**

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

## LTE Band 4 Measured Results

| Band       | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |            |          | MPR | Max Power Antenna D |            |          | MPR | Reduced Power Antenna C |            |          | MPR | Reduced Power Antenna D |            |          |
|------------|----------|-------|---------------|-----------|-----|---------------------|------------|----------|-----|---------------------|------------|----------|-----|-------------------------|------------|----------|-----|-------------------------|------------|----------|
|            |          |       |               |           |     | 1720 MHz            | 1732.5 MHz | 1745 MHz |     | 1720 MHz            | 1732.5 MHz | 1745 MHz |     | 1720 MHz                | 1732.5 MHz | 1745 MHz |     | 1720 MHz                | 1732.5 MHz | 1745 MHz |
| LTE Band 4 | 20       | QPSK  | 1             | 0         | 0   | 24.9                | 24.9       | 24.8     | 0   | 23.4                | 23.5       | 23.4     | 0   | 12.9                    | 12.9       | 12.9     | 0   | 13.3                    | 13.2       | 13.2     |
|            |          |       | 1             | 49        | 0   | 24.6                | 24.7       | 24.6     | 0   | 22.6                | 22.7       | 22.8     | 0   | 13.0                    | 12.9       | 12.9     | 0   | 13.3                    | 13.2       | 13.3     |
|            |          |       | 1             | 99        | 0   | 24.7                | 24.8       | 24.7     | 0   | 22.9                | 23.0       | 23.1     | 0   | 12.9                    | 13.0       | 12.9     | 0   | 13.1                    | 13.2       | 13.3     |
|            |          |       | 50            | 0         | 1   | 24.9                | 24.8       | 24.8     | 1   | 21.9                | 22.0       | 22.0     | 0   | 12.8                    | 12.9       | 12.9     | 0   | 13.2                    | 13.2       | 13.3     |
|            |          |       | 50            | 24        | 1   | 24.7                | 24.8       | 24.7     | 1   | 21.7                | 21.8       | 21.9     | 0   | 12.9                    | 13.0       | 13.0     | 0   | 13.3                    | 13.3       | 13.3     |
|            |          |       | 50            | 49        | 1   | 24.7                | 24.8       | 24.7     | 1   | 21.8                | 21.8       | 22.0     | 0   | 13.0                    | 13.0       | 12.9     | 0   | 13.3                    | 13.2       | 13.2     |
|            |          | 16QAM | 100           | 0         | 1   | 24.8                | 24.8       | 24.7     | 1   | 21.8                | 21.9       | 22.0     | 0   | 13.0                    | 12.9       | 12.9     | 0   | 13.2                    | 13.3       | 13.3     |
|            |          |       | 1             | 0         | 1   | 24.9                | 24.9       | 25.0     | 1   | 22.8                | 23.0       | 22.9     | 0   | 13.0                    | 13.0       | 13.0     | 0   | 13.3                    | 13.3       | 13.3     |
|            |          |       | 1             | 49        | 1   | 24.9                | 24.9       | 24.9     | 1   | 22.0                | 22.3       | 22.1     | 0   | 13.0                    | 13.0       | 13.0     | 0   | 13.1                    | 13.1       | 13.3     |
|            |          |       | 1             | 99        | 1   | 25.0                | 25.0       | 25.0     | 1   | 22.3                | 22.6       | 22.4     | 0   | 13.0                    | 13.0       | 13.0     | 0   | 13.3                    | 13.3       | 13.3     |
|            |          |       | 50            | 0         | 2   | 23.7                | 23.7       | 23.7     | 2   | 20.9                | 21.0       | 21.0     | 0   | 13.0                    | 13.0       | 12.9     | 0   | 13.2                    | 13.3       | 13.2     |
|            |          |       | 50            | 24        | 2   | 23.7                | 23.8       | 23.7     | 2   | 20.7                | 20.8       | 20.9     | 0   | 13.0                    | 13.0       | 12.9     | 0   | 13.1                    | 13.2       | 13.1     |
| LTE Band 4 | 15       | QPSK  | 50            | 49        | 2   | 23.7                | 23.8       | 23.7     | 2   | 20.8                | 20.8       | 21.0     | 0   | 13.0                    | 13.0       | 12.9     | 0   | 13.1                    | 13.2       | 13.2     |
|            |          |       | 100           | 0         | 2   | 23.8                | 23.8       | 23.7     | 2   | 20.8                | 20.9       | 20.9     | 0   | 13.0                    | 13.0       | 12.9     | 0   | 13.3                    | 13.3       | 13.2     |
|            |          | 16QAM | 1             | 0         | 0   | 24.9                | 24.8       | 24.9     | 0   | 23.3                | 23.4       | 23.5     | 0   | 12.9                    | 13.0       | 13.0     | 0   | 13.2                    | 13.3       | 13.1     |
|            |          |       | 1             | 36        | 0   | 24.5                | 24.6       | 24.3     | 0   | 22.9                | 22.8       | 22.9     | 0   | 13.0                    | 12.9       | 12.8     | 0   | 13.3                    | 13.1       | 13.1     |
|            |          |       | 1             | 74        | 0   | 24.6                | 24.7       | 24.6     | 0   | 23.1                | 23.1       | 23.3     | 0   | 12.9                    | 12.8       | 12.9     | 0   | 13.1                    | 13.2       | 13.1     |
|            |          |       | 36            | 0         | 1   | 24.8                | 24.7       | 24.7     | 1   | 22.1                | 22.2       | 22.2     | 0   | 12.8                    | 12.8       | 13.0     | 0   | 13.1                    | 13.1       | 13.2     |
|            |          |       | 36            | 18        | 1   | 24.7                | 24.7       | 24.6     | 1   | 22.0                | 22.1       | 22.1     | 0   | 12.9                    | 13.0       | 13.0     | 0   | 13.1                    | 13.2       | 13.1     |
|            |          |       | 36            | 37        | 1   | 24.7                | 24.7       | 24.7     | 1   | 22.0                | 22.1       | 22.2     | 0   | 13.0                    | 12.8       | 13.0     | 0   | 13.1                    | 13.3       | 13.1     |
|            |          |       | 75            | 0         | 1   | 24.7                | 24.7       | 24.6     | 1   | 22.0                | 22.1       | 22.2     | 0   | 12.8                    | 13.0       | 13.0     | 0   | 13.1                    | 13.3       | 13.1     |
|            |          |       | 1             | 0         | 1   | 25.0                | 24.7       | 25.0     | 1   | 22.7                | 22.2       | 22.9     | 0   | 13.0                    | 12.9       | 13.0     | 0   | 13.2                    | 13.2       | 13.3     |
|            |          | 16QAM | 1             | 36        | 1   | 24.9                | 24.5       | 24.9     | 1   | 22.2                | 21.8       | 22.4     | 0   | 12.9                    | 12.8       | 12.9     | 0   | 13.1                    | 13.3       | 13.3     |
|            |          |       | 1             | 74        | 1   | 25.0                | 24.6       | 25.0     | 1   | 22.5                | 21.9       | 22.6     | 0   | 13.0                    | 12.9       | 13.0     | 0   | 13.3                    | 13.3       | 13.3     |
|            |          |       | 36            | 0         | 2   | 23.7                | 23.7       | 23.7     | 2   | 21.1                | 21.1       | 21.3     | 0   | 12.9                    | 12.9       | 12.9     | 0   | 13.1                    | 13.1       | 13.3     |
|            |          |       | 36            | 18        | 2   | 23.7                | 23.7       | 23.7     | 2   | 21.0                | 21.1       | 21.1     | 0   | 12.9                    | 13.0       | 12.9     | 0   | 13.1                    | 13.3       | 13.2     |
|            |          |       | 36            | 37        | 2   | 23.7                | 23.7       | 23.7     | 2   | 21.0                | 21.1       | 21.2     | 0   | 12.9                    | 12.8       | 12.9     | 0   | 13.2                    | 13.3       | 13.3     |
|            |          |       | 75            | 0         | 2   | 23.7                | 23.8       | 23.7     | 2   | 21.1                | 21.1       | 21.2     | 0   | 13.0                    | 13.0       | 13.0     | 0   | 13.1                    | 13.3       | 13.3     |
| LTE Band 4 | 10       | QPSK  | 1             | 0         | 0   | 24.9                | 24.8       | 24.8     | 0   | 23.1                | 23.1       | 23.5     | 0   | 12.9                    | 13.0       | 12.8     | 0   | 13.2                    | 13.3       | 13.3     |
|            |          |       | 1             | 24        | 0   | 24.7                | 24.6       | 24.6     | 0   | 22.9                | 22.9       | 23.2     | 0   | 12.8                    | 12.8       | 12.8     | 0   | 13.1                    | 13.2       | 13.1     |
|            |          |       | 1             | 49        | 0   | 24.8                | 24.8       | 24.7     | 0   | 22.9                | 23.1       | 23.3     | 0   | 12.9                    | 12.8       | 12.9     | 0   | 13.3                    | 13.1       | 13.2     |
|            |          |       | 25            | 0         | 1   | 24.8                | 24.7       | 24.7     | 1   | 21.9                | 21.9       | 22.2     | 0   | 12.9                    | 12.8       | 12.9     | 0   | 13.1                    | 13.1       | 13.1     |
|            |          |       | 25            | 12        | 1   | 24.8                | 24.8       | 24.7     | 1   | 21.9                | 22.0       | 22.3     | 0   | 12.8                    | 12.9       | 12.9     | 0   | 13.1                    | 13.3       | 13.1     |
|            |          |       | 25            | 24        | 1   | 24.7                | 24.7       | 24.6     | 1   | 21.9                | 22.0       | 22.2     | 0   | 12.8                    | 12.8       | 12.8     | 0   | 13.1                    | 13.3       | 13.1     |
|            |          | 16QAM | 50            | 0         | 1   | 24.7                | 24.8       | 24.7     | 1   | 21.9                | 22.1       | 22.3     | 0   | 12.8                    | 13.0       | 12.9     | 0   | 13.1                    | 13.3       | 13.2     |
|            |          |       | 1             | 0         | 1   | 24.9                | 24.8       | 25.0     | 1   | 22.1                | 22.0       | 22.8     | 0   | 13.0                    | 12.9       | 13.0     | 0   | 13.2                    | 13.3       | 13.3     |
|            |          |       | 1             | 24        | 1   | 24.6                | 24.6       | 24.9     | 1   | 21.8                | 21.9       | 22.6     | 0   | 13.0                    | 12.8       | 12.8     | 0   | 13.1                    | 13.2       | 13.1     |
|            |          |       | 1             | 49        | 1   | 24.7                | 24.7       | 24.9     | 1   | 21.9                | 21.9       | 22.7     | 0   | 12.9                    | 12.8       | 12.9     | 0   | 13.3                    | 13.1       | 13.2     |
|            |          |       | 25            | 0         | 2   | 23.7                | 23.7       | 23.7     | 2   | 21.0                | 21.0       | 21.2     | 0   | 12.9                    | 13.0       | 12.8     | 0   | 13.2                    | 13.1       | 13.1     |
|            |          |       | 25            | 12        | 2   | 23.8                | 23.8       | 23.7     | 2   | 21.0                | 21.0       | 21.3     | 0   | 12.9                    | 12.9       | 12.8     | 0   | 13.2                    | 13.2       | 13.1     |
|            |          |       | 25            | 24        | 2   | 23.8                | 23.8       | 23.7     | 2   | 21.0                | 21.0       | 21.3     | 0   | 12.9                    | 12.9       | 12.8     | 0   | 13.2                    | 13.2       | 13.1     |
|            |          |       | 50            | 0         | 2   | 23.8                | 23.8       | 23.7     | 2   | 21.0                | 21.0       | 21.3     | 0   | 12.9                    | 13.0       | 12.9     | 0   | 13.2                    | 13.2       | 13.2     |

## LTE Band 4 Measured Results (continued)

| Band       | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |            |            | MPR | Max Power Antenna D |            |            | MPR | Reduced Power Antenna C |            |            | MPR | Reduced Power Antenna D |            |            |
|------------|----------|-------|---------------|-----------|-----|---------------------|------------|------------|-----|---------------------|------------|------------|-----|-------------------------|------------|------------|-----|-------------------------|------------|------------|
|            |          |       |               |           |     | 1712.5 MHz          | 1732.5 MHz | 1752.5 MHz |     | 1712.5 MHz          | 1732.5 MHz | 1752.5 MHz |     | 1712.5 MHz              | 1732.5 MHz | 1752.5 MHz |     | 1712.5 MHz              | 1732.5 MHz | 1752.5 MHz |
| LTE Band 4 | 5        | QPSK  | 1             | 0         | 0   | 24.7                | 24.6       | 24.6       | 0   | 23.1                | 23.2       | 23.4       | 0   | 12.9                    | 12.9       | 12.8       | 0   | 13.1                    | 13.2       | 13.2       |
|            |          |       | 1             | 12        | 0   | 24.6                | 24.7       | 24.6       | 0   | 23.1                | 23.3       | 23.4       | 0   | 13.0                    | 12.9       | 12.8       | 0   | 13.2                    | 13.2       | 13.2       |
|            |          |       | 1             | 24        | 0   | 24.7                | 24.7       | 24.6       | 0   | 23.2                | 23.2       | 23.4       | 0   | 13.0                    | 12.9       | 12.8       | 0   | 13.1                    | 13.1       | 13.1       |
|            |          |       | 12            | 0         | 1   | 24.7                | 24.6       | 24.6       | 1   | 22.2                | 22.1       | 22.4       | 0   | 13.0                    | 12.8       | 12.8       | 0   | 13.1                    | 13.1       | 13.1       |
|            |          |       | 12            | 7         | 1   | 24.7                | 24.7       | 24.6       | 1   | 22.2                | 22.3       | 22.5       | 0   | 13.0                    | 12.9       | 12.8       | 0   | 13.1                    | 13.1       | 13.1       |
|            |          |       | 12            | 13        | 1   | 24.7                | 24.7       | 24.6       | 1   | 22.2                | 22.2       | 22.5       | 0   | 13.0                    | 12.9       | 12.8       | 0   | 13.1                    | 13.1       | 13.1       |
|            |          | 16QAM | 25            | 0         | 1   | 24.7                | 24.7       | 24.6       | 1   | 22.1                | 22.2       | 22.4       | 0   | 12.9                    | 12.9       | 12.8       | 0   | 13.1                    | 13.1       | 13.1       |
|            |          |       | 1             | 0         | 1   | 24.8                | 24.8       | 24.8       | 1   | 22.3                | 22.3       | 23.0       | 0   | 12.9                    | 12.9       | 12.9       | 0   | 13.3                    | 13.3       | 13.3       |
|            |          |       | 1             | 12        | 1   | 24.7                | 24.9       | 24.8       | 1   | 22.3                | 22.4       | 22.9       | 0   | 12.9                    | 12.9       | 13.0       | 0   | 13.3                    | 13.2       | 13.3       |
|            |          |       | 1             | 24        | 1   | 24.7                | 24.9       | 24.8       | 1   | 22.3                | 22.5       | 23.0       | 0   | 12.9                    | 13.0       | 12.9       | 0   | 13.3                    | 13.3       | 13.3       |
|            |          |       | 12            | 0         | 2   | 23.7                | 23.7       | 23.8       | 2   | 21.3                | 21.2       | 21.5       | 0   | 12.9                    | 12.8       | 12.8       | 0   | 13.3                    | 13.2       | 13.1       |
|            |          |       | 12            | 7         | 2   | 23.7                | 23.8       | 23.7       | 2   | 21.3                | 21.4       | 21.6       | 0   | 12.9                    | 12.9       | 12.8       | 0   | 13.3                    | 13.2       | 13.1       |
|            |          |       | 12            | 13        | 2   | 23.7                | 23.8       | 23.8       | 2   | 21.2                | 21.4       | 21.6       | 0   | 13.0                    | 12.9       | 12.8       | 0   | 13.3                    | 13.2       | 13.1       |
|            |          |       | 25            | 0         | 2   | 23.7                | 23.7       | 23.7       | 2   | 21.2                | 21.3       | 21.5       | 0   | 12.9                    | 12.8       | 12.8       | 0   | 13.3                    | 13.1       | 13.1       |
|            |          |       |               |           |     |                     |            |            |     |                     |            |            |     |                         |            |            |     |                         |            |            |
| Band       | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |            |            | MPR | Max Power Antenna D |            |            | MPR | Reduced Power Antenna C |            |            | MPR | Reduced Power Antenna D |            |            |
|            |          |       |               |           |     | 1711.5 MHz          | 1732.5 MHz | 1753.5 MHz |     | 1711.5 MHz          | 1732.5 MHz | 1753.5 MHz |     | 1711.5 MHz              | 1732.5 MHz | 1753.5 MHz |     | 1711.5 MHz              | 1732.5 MHz | 1753.5 MHz |
| LTE Band 4 | 3        | QPSK  | 1             | 0         | 0   | 24.6                | 24.5       | 24.5       | 0   | 23.4                | 23.1       | 23.4       | 0   | 13.0                    | 13.0       | 12.8       | 0   | 13.3                    | 13.1       | 13.1       |
|            |          |       | 1             | 8         | 0   | 24.7                | 24.7       | 24.7       | 0   | 23.4                | 23.3       | 23.5       | 0   | 13.0                    | 12.9       | 12.8       | 0   | 13.3                    | 13.1       | 13.1       |
|            |          |       | 1             | 14        | 0   | 24.6                | 24.6       | 24.5       | 0   | 23.3                | 23.2       | 23.4       | 0   | 13.0                    | 13.0       | 12.9       | 0   | 13.3                    | 13.1       | 13.1       |
|            |          |       | 8             | 0         | 1   | 24.7                | 24.7       | 24.6       | 1   | 22.2                | 22.2       | 22.4       | 0   | 13.0                    | 12.9       | 12.9       | 0   | 13.3                    | 13.1       | 13.2       |
|            |          |       | 8             | 4         | 1   | 24.7                | 24.7       | 24.6       | 1   | 22.0                | 22.3       | 22.5       | 0   | 12.9                    | 13.0       | 12.9       | 0   | 13.3                    | 13.1       | 13.2       |
|            |          |       | 8             | 7         | 1   | 24.7                | 24.7       | 24.6       | 1   | 22.3                | 22.3       | 22.5       | 0   | 13.0                    | 13.0       | 12.8       | 0   | 13.3                    | 13.1       | 13.2       |
|            |          | 16QAM | 15            | 0         | 1   | 24.6                | 24.7       | 24.6       | 1   | 22.2                | 22.2       | 22.4       | 0   | 13.0                    | 13.0       | 12.8       | 0   | 13.3                    | 13.1       | 13.1       |
|            |          |       | 1             | 0         | 1   | 24.6                | 24.5       | 24.9       | 1   | 22.3                | 22.0       | 22.7       | 0   | 12.8                    | 12.9       | 13.0       | 0   | 13.3                    | 13.1       | 13.2       |
|            |          |       | 1             | 8         | 1   | 24.7                | 24.7       | 25.0       | 1   | 22.4                | 22.2       | 22.9       | 0   | 12.9                    | 12.9       | 12.9       | 0   | 13.3                    | 13.1       | 13.2       |
|            |          |       | 1             | 14        | 1   | 24.6                | 24.6       | 25.0       | 1   | 22.3                | 22.1       | 22.8       | 0   | 12.8                    | 12.9       | 13.0       | 0   | 13.3                    | 13.1       | 13.2       |
|            |          |       | 8             | 0         | 2   | 23.8                | 23.8       | 23.5       | 2   | 21.3                | 21.4       | 21.3       | 0   | 13.0                    | 13.0       | 12.8       | 0   | 13.3                    | 13.1       | 13.2       |
|            |          |       | 8             | 4         | 2   | 23.8                | 23.8       | 23.5       | 2   | 21.5                | 21.3       | 21.3       | 0   | 13.0                    | 13.0       | 12.9       | 0   | 13.3                    | 13.2       | 13.2       |
|            |          |       | 8             | 7         | 2   | 23.8                | 23.8       | 23.5       | 2   | 21.5                | 21.4       | 21.4       | 0   | 12.9                    | 12.8       | 12.8       | 0   | 13.2                    | 13.1       | 13.2       |
|            |          |       | 15            | 0         | 2   | 23.6                | 23.7       | 23.6       | 2   | 21.3                | 21.3       | 21.4       | 0   | 13.0                    | 12.9       | 12.9       | 0   | 13.2                    | 13.1       | 13.2       |
|            |          |       |               |           |     |                     |            |            |     |                     |            |            |     |                         |            |            |     |                         |            |            |
| Band       | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |            |            | MPR | Max Power Antenna D |            |            | MPR | Reduced Power Antenna C |            |            | MPR | Reduced Power Antenna D |            |            |
|            |          |       |               |           |     | 1710.7 MHz          | 1732.5 MHz | 1754.3 MHz |     | 1710.7 MHz          | 1732.5 MHz | 1754.3 MHz |     | 1710.7 MHz              | 1732.5 MHz | 1754.3 MHz |     | 1710.7 MHz              | 1732.5 MHz | 1754.3 MHz |
| LTE Band 4 | 1.4      | QPSK  | 1             | 0         | 0   | 24.6                | 24.5       | 24.5       | 0   | 23.1                | 23.3       | 23.4       | 0   | 12.9                    | 12.9       | 12.9       | 0   | 13.3                    | 13.1       | 13.1       |
|            |          |       | 1             | 3         | 0   | 24.6                | 24.7       | 24.5       | 0   | 23.1                | 23.3       | 23.5       | 0   | 12.9                    | 12.9       | 12.9       | 0   | 13.3                    | 13.2       | 13.2       |
|            |          |       | 1             | 5         | 0   | 24.6                | 24.6       | 24.5       | 0   | 23.1                | 23.2       | 23.4       | 0   | 12.8                    | 12.8       | 12.9       | 0   | 13.3                    | 13.1       | 13.1       |
|            |          |       | 3             | 0         | 0   | 24.7                | 24.7       | 24.6       | 0   | 23.3                | 23.3       | 23.5       | 0   | 13.0                    | 12.9       | 12.9       | 0   | 13.3                    | 13.1       | 13.2       |
|            |          |       | 3             | 1         | 0   | 24.7                | 24.7       | 24.6       | 0   | 23.4                | 23.4       | 23.4       | 0   | 12.9                    | 12.8       | 12.9       | 0   | 13.3                    | 13.1       | 13.1       |
|            |          |       | 3             | 3         | 0   | 24.7                | 24.7       | 24.6       | 0   | 23.4                | 23.4       | 23.5       | 0   | 12.9                    | 12.8       | 12.8       | 0   | 13.2                    | 13.1       | 13.1       |
|            |          | 16QAM | 6             | 0         | 1   | 24.6                | 24.6       | 24.5       | 1   | 22.3                | 22.3       | 22.5       | 0   | 12.9                    | 12.8       | 12.9       | 0   | 13.3                    | 13.1       | 13.1       |
|            |          |       | 1             | 0         | 1   | 24.6                | 24.7       | 24.9       | 1   | 22.2                | 22.4       | 22.8       | 0   | 13.0                    | 13.0       | 12.9       | 0   | 13.3                    | 13.2       | 13.3       |
|            |          |       | 1             | 3         | 1   | 24.6                | 24.8       | 24.9       | 1   | 22.3                | 22.4       | 22.9       | 0   | 12.8                    | 12.9       | 13.0       | 0   | 13.3                    | 13.2       | 13.3       |
|            |          |       | 1             | 5         | 1   | 24.6                | 24.7       | 24.8       | 1   | 22.2                | 22.4       | 22.8       | 0   | 13.0                    | 13.0       | 12.9       | 0   | 13.3                    | 13.2       | 13.3       |
|            |          |       | 3             | 0         | 1   | 24.7                | 24.8       | 24.7       | 1   | 22.4                | 22.4       | 22.7       | 0   | 12.9                    | 13.0       | 12.9       | 0   | 13.3                    | 13.3       | 13.3       |
|            |          |       | 3             | 1         | 1   | 24.7                | 24.8       | 24.8       | 1   | 22.5                | 22.5       | 22.7       | 0   | 12.9                    | 12.9       | 12.9       | 0   | 13.3                    | 13.3       | 13.2       |
|            |          |       | 3             | 3         | 1   | 24.7                | 24.8       | 24.8       | 1   | 22.5                | 22.5       | 22.7       | 0   | 12.9                    | 13.0       | 12.9       | 0   | 13.3                    | 13.2       | 13.2       |
|            |          |       | 6             | 0         | 2   | 23.7                | 23.8       | 23.4       | 2   | 21.4                | 21.4       | 21.4       | 0   | 13.0                    | 13.0       | 12.8       | 0   | 13.2                    | 13.2       | 13.2       |
|            |          |       |               |           |     |                     |            |            |     |                     |            |            |     |                         |            |            |     |                         |            |            |

**LTE Band 5 Measured Results**

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

## LTE Band 7 Measured Results

| Band       | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |          |            | MPR | Max Power Antenna D |          |            | MPR | Reduced Power Antenna C |          |            | MPR | Reduced Power Antenna D |          |            |
|------------|----------|-------|---------------|-----------|-----|---------------------|----------|------------|-----|---------------------|----------|------------|-----|-------------------------|----------|------------|-----|-------------------------|----------|------------|
|            |          |       |               |           |     | 2510 MHz            | 2535 MHz | 2560 MHz   |     | 2510 MHz            | 2535 MHz | 2560 MHz   |     | 2510 MHz                | 2535 MHz | 2560 MHz   |     | 2510 MHz                | 2535 MHz | 2560 MHz   |
| LTE Band 7 | 20       | QPSK  | 1             | 0         | 0   | 24.8                | 24.8     | 24.9       | 0   | 23.5                | 23.4     | 23.5       | 0   | 12.5                    | 12.5     | 12.4       | 0   | 13.3                    | 13.3     | 13.2       |
|            |          |       | 1             | 49        | 0   | 24.7                | 24.6     | 24.7       | 0   | 23.3                | 23.2     | 23.3       | 0   | 12.5                    | 12.4     | 12.4       | 0   | 13.3                    | 13.3     | 13.2       |
|            |          |       | 1             | 99        | 0   | 24.4                | 24.3     | 24.5       | 0   | 23.0                | 23.0     | 23.2       | 0   | 12.3                    | 12.4     | 12.3       | 0   | 13.3                    | 13.3     | 13.2       |
|            |          |       | 50            | 0         | 1   | 24.8                | 24.7     | 24.8       | 1   | 22.4                | 22.3     | 22.4       | 0   | 12.3                    | 12.3     | 12.4       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 50            | 24        | 1   | 24.7                | 24.6     | 24.7       | 1   | 22.3                | 22.2     | 22.3       | 0   | 12.5                    | 12.4     | 12.5       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 50            | 49        | 1   | 24.6                | 24.5     | 24.6       | 1   | 22.1                | 22.1     | 22.3       | 0   | 12.3                    | 12.4     | 12.3       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          | 16QAM | 100           | 0         | 1   | 24.7                | 24.6     | 24.7       | 1   | 22.3                | 22.2     | 22.3       | 0   | 12.5                    | 12.5     | 12.5       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 1             | 0         | 1   | 24.9                | 24.9     | 24.9       | 1   | 22.8                | 22.9     | 22.9       | 0   | 12.5                    | 12.4     | 12.5       | 0   | 13.2                    | 13.3     | 13.3       |
|            |          |       | 1             | 49        | 1   | 24.8                | 24.7     | 24.8       | 1   | 22.7                | 22.7     | 22.6       | 0   | 12.4                    | 12.3     | 12.3       | 0   | 13.2                    | 13.3     | 13.3       |
|            |          |       | 1             | 99        | 1   | 24.5                | 24.7     | 24.6       | 1   | 22.4                | 22.5     | 22.5       | 0   | 12.3                    | 12.3     | 12.4       | 0   | 13.2                    | 13.3     | 13.3       |
|            |          |       | 50            | 0         | 2   | 23.8                | 23.6     | 23.8       | 2   | 21.3                | 21.4     | 21.4       | 0   | 12.3                    | 12.3     | 12.4       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 50            | 24        | 2   | 23.7                | 23.6     | 23.7       | 2   | 21.3                | 21.3     | 21.3       | 0   | 12.4                    | 12.4     | 12.3       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 50            | 49        | 2   | 23.6                | 23.4     | 23.6       | 2   | 21.1                | 21.2     | 21.3       | 0   | 12.3                    | 12.3     | 12.4       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 100           | 0         | 2   | 23.7                | 23.6     | 23.7       | 2   | 21.3                | 21.3     | 21.3       | 0   | 12.4                    | 12.4     | 12.3       | 0   | 13.2                    | 13.2     | 13.2       |
| Band       | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |          |            | MPR | Max Power Antenna D |          |            | MPR | Reduced Power Antenna C |          |            | MPR | Reduced Power Antenna D |          |            |
|            |          |       |               |           |     | 2507.5 MHz          | 2535 MHz | 2562.5 MHz |     | 2507.5 MHz          | 2535 MHz | 2562.5 MHz |     | 2507.5 MHz              | 2535 MHz | 2562.5 MHz |     | 2507.5 MHz              | 2535 MHz | 2562.5 MHz |
| LTE Band 7 | 15       | QPSK  | 1             | 0         | 0   | 24.8                | 24.6     | 24.7       | 0   | 23.5                | 23.4     | 23.3       | 0   | 12.3                    | 12.4     | 12.4       | 0   | 13.3                    | 13.3     | 13.2       |
|            |          |       | 1             | 36        | 0   | 24.3                | 24.4     | 24.5       | 0   | 23.1                | 23.0     | 23.5       | 0   | 12.3                    | 12.4     | 12.4       | 0   | 13.3                    | 13.3     | 13.2       |
|            |          |       | 1             | 74        | 0   | 24.4                | 24.3     | 24.6       | 0   | 23.1                | 23.0     | 23.1       | 0   | 12.4                    | 12.4     | 12.4       | 0   | 13.3                    | 13.3     | 13.2       |
|            |          |       | 36            | 0         | 1   | 24.8                | 24.7     | 24.8       | 1   | 22.4                | 22.4     | 22.4       | 0   | 12.3                    | 12.5     | 12.4       | 0   | 13.2                    | 13.3     | 13.3       |
|            |          |       | 36            | 18        | 1   | 24.7                | 24.6     | 24.7       | 1   | 22.4                | 22.2     | 22.4       | 0   | 12.4                    | 12.3     | 12.3       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 36            | 37        | 1   | 24.6                | 24.5     | 24.6       | 1   | 22.3                | 22.1     | 22.3       | 0   | 12.4                    | 12.3     | 12.4       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 75            | 0         | 1   | 24.7                | 24.6     | 24.7       | 1   | 22.3                | 22.2     | 22.4       | 0   | 12.5                    | 12.4     | 12.5       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          | 16QAM | 1             | 0         | 1   | 25.0                | 25.0     | 24.6       | 1   | 22.8                | 22.7     | 22.2       | 0   | 12.4                    | 12.4     | 12.4       | 0   | 13.2                    | 13.3     | 13.3       |
|            |          |       | 1             | 36        | 1   | 24.9                | 24.9     | 24.5       | 1   | 22.7                | 22.5     | 22.2       | 0   | 12.4                    | 12.5     | 12.5       | 0   | 13.2                    | 13.3     | 13.3       |
|            |          |       | 1             | 74        | 1   | 24.8                | 24.6     | 24.3       | 1   | 22.4                | 22.4     | 22.0       | 0   | 12.3                    | 12.3     | 12.4       | 0   | 13.2                    | 13.3     | 13.3       |
|            |          |       | 36            | 0         | 2   | 23.8                | 23.6     | 23.8       | 2   | 21.4                | 21.3     | 21.3       | 0   | 12.4                    | 12.5     | 12.3       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 36            | 18        | 2   | 23.7                | 23.6     | 23.7       | 2   | 21.4                | 21.2     | 21.5       | 0   | 12.3                    | 12.4     | 12.5       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 36            | 37        | 2   | 23.7                | 23.5     | 23.6       | 2   | 21.3                | 21.2     | 21.4       | 0   | 12.3                    | 12.3     | 12.4       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 75            | 0         | 2   | 23.7                | 23.6     | 23.6       | 2   | 21.4                | 21.3     | 21.4       | 0   | 12.4                    | 12.3     | 12.4       | 0   | 13.2                    | 13.2     | 13.2       |
| Band       | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |          |            | MPR | Max Power Antenna D |          |            | MPR | Reduced Power Antenna C |          |            | MPR | Reduced Power Antenna D |          |            |
|            |          |       |               |           |     | 2505 MHz            | 2535 MHz | 2565 MHz   |     | 2505 MHz            | 2535 MHz | 2565 MHz   |     | 2505 MHz                | 2535 MHz | 2565 MHz   |     | 2505 MHz                | 2535 MHz | 2565 MHz   |
| LTE Band 7 | 10       | QPSK  | 1             | 0         | 0   | 24.8                | 24.8     | 24.8       | 0   | 23.4                | 23.1     | 23.5       | 0   | 12.4                    | 12.5     | 12.4       | 0   | 13.3                    | 13.3     | 13.2       |
|            |          |       | 1             | 24        | 0   | 24.6                | 24.6     | 24.7       | 0   | 23.2                | 23.0     | 23.3       | 0   | 12.3                    | 12.3     | 12.4       | 0   | 13.3                    | 13.3     | 13.2       |
|            |          |       | 1             | 49        | 0   | 24.6                | 24.6     | 24.7       | 0   | 23.2                | 22.9     | 23.2       | 0   | 12.3                    | 12.3     | 12.4       | 0   | 13.3                    | 13.3     | 13.2       |
|            |          |       | 25            | 0         | 1   | 24.7                | 24.7     | 24.7       | 1   | 22.2                | 22.2     | 22.4       | 0   | 12.4                    | 12.5     | 12.3       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 25            | 12        | 1   | 24.7                | 24.7     | 24.8       | 1   | 22.2                | 22.1     | 22.4       | 0   | 12.3                    | 12.4     | 12.3       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 25            | 24        | 1   | 24.6                | 24.6     | 24.7       | 1   | 22.1                | 22.0     | 22.3       | 0   | 12.3                    | 12.3     | 12.4       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 50            | 0         | 1   | 24.7                | 24.7     | 24.8       | 1   | 22.3                | 22.1     | 22.4       | 0   | 12.4                    | 12.4     | 12.3       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          | 16QAM | 1             | 0         | 1   | 24.9                | 24.7     | 24.8       | 1   | 22.2                | 22.6     | 22.5       | 0   | 12.5                    | 12.3     | 12.4       | 0   | 13.2                    | 13.3     | 13.3       |
|            |          |       | 1             | 24        | 1   | 24.7                | 24.6     | 24.7       | 1   | 22.1                | 22.4     | 22.3       | 0   | 12.3                    | 12.4     | 12.3       | 0   | 13.2                    | 13.3     | 13.3       |
|            |          |       | 1             | 49        | 1   | 24.7                | 24.5     | 24.6       | 1   | 22.0                | 22.3     | 22.2       | 0   | 12.3                    | 12.3     | 12.3       | 0   | 13.2                    | 13.3     | 13.3       |
|            |          |       | 25            | 0         | 2   | 23.8                | 23.7     | 23.8       | 2   | 21.2                | 21.2     | 21.5       | 0   | 12.5                    | 12.4     | 12.5       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 25            | 12        | 2   | 23.7                | 23.8     | 23.8       | 2   | 21.2                | 21.2     | 21.4       | 0   | 12.4                    | 12.4     | 12.4       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 25            | 24        | 2   | 23.7                | 23.7     | 23.7       | 2   | 21.1                | 21.1     | 21.4       | 0   | 12.5                    | 12.4     | 12.4       | 0   | 13.3                    | 13.3     | 13.3       |
|            |          |       | 50            | 0         | 2   | 23.7                | 23.7     | 23.7       | 2   | 21.2                | 21.1     | 21.4       | 0   | 12.5                    | 12.5     | 12.5       | 0   | 13.2                    | 13.2     | 13.2       |

**LTE Band 7 Measured Results (continued)**

| Band          | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MPR | Max Power Antenna C |          |            | MPR | Max Power Antenna D |          |            | MPR | Reduced Power Antenna C |          |            | MPR | Reduced Power Antenna D |          |            |
|---------------|-------------|-------|------------------|--------------|-----|---------------------|----------|------------|-----|---------------------|----------|------------|-----|-------------------------|----------|------------|-----|-------------------------|----------|------------|
|               |             |       |                  |              |     | 2502.5 MHz          | 2535 MHz | 2567.5 MHz |     | 2502.5 MHz          | 2535 MHz | 2567.5 MHz |     | 2502.5 MHz              | 2535 MHz | 2567.5 MHz |     | 2502.5 MHz              | 2535 MHz | 2567.5 MHz |
| LTE<br>Band 7 | 5           | QPSK  | 1                | 0            | 0   | 24.8                | 24.7     | 24.9       | 0   | 23.4                | 23.3     | 23.5       | 0   | 12.3                    | 12.4     | 12.3       | 0   | 13.3                    | 13.3     | 13.2       |
|               |             |       | 1                | 12           | 0   | 24.7                | 24.7     | 24.7       | 0   | 23.4                | 23.2     | 23.3       | 0   | 12.3                    | 12.3     | 12.3       | 0   | 13.3                    | 13.3     | 13.2       |
|               |             |       | 1                | 24           | 0   | 24.6                | 24.6     | 24.8       | 0   | 23.4                | 23.1     | 23.4       | 0   | 12.3                    | 12.3     | 12.3       | 0   | 13.3                    | 13.3     | 13.2       |
|               |             |       | 12               | 0            | 1   | 24.6                | 24.7     | 24.8       | 1   | 22.4                | 22.2     | 22.5       | 0   | 12.3                    | 12.4     | 12.3       | 0   | 13.3                    | 13.3     | 13.3       |
|               |             |       | 12               | 7            | 1   | 24.7                | 24.7     | 24.8       | 1   | 22.3                | 22.2     | 22.5       | 0   | 12.3                    | 12.3     | 12.3       | 0   | 13.3                    | 13.3     | 13.3       |
|               |             |       | 12               | 13           | 1   | 24.6                | 24.6     | 24.8       | 1   | 22.3                | 22.3     | 22.5       | 0   | 12.5                    | 12.3     | 12.4       | 0   | 13.3                    | 13.3     | 13.3       |
|               |             |       | 25               | 0            | 1   | 24.6                | 24.6     | 24.7       | 1   | 22.2                | 22.2     | 22.4       | 0   | 12.5                    | 12.3     | 12.4       | 0   | 13.3                    | 13.3     | 13.3       |
|               |             | 16QAM | 1                | 0            | 1   | 24.9                | 25.0     | 24.9       | 1   | 22.5                | 22.9     | 22.6       | 0   | 12.5                    | 12.4     | 12.4       | 0   | 13.2                    | 13.3     | 13.3       |
|               |             |       | 1                | 12           | 1   | 24.8                | 25.0     | 24.9       | 1   | 22.4                | 22.7     | 22.5       | 0   | 12.4                    | 12.3     | 12.5       | 0   | 13.2                    | 13.3     | 13.3       |
|               |             |       | 1                | 24           | 1   | 24.8                | 25.0     | 24.9       | 1   | 22.4                | 22.6     | 22.5       | 0   | 12.4                    | 12.4     | 12.5       | 0   | 13.2                    | 13.3     | 13.3       |
|               |             |       | 12               | 0            | 2   | 23.8                | 23.9     | 23.8       | 2   | 21.4                | 21.5     | 21.6       | 0   | 12.3                    | 12.4     | 12.4       | 0   | 13.3                    | 13.3     | 13.3       |
|               |             |       | 12               | 7            | 2   | 23.8                | 23.8     | 23.8       | 2   | 21.3                | 21.4     | 21.6       | 0   | 12.3                    | 12.3     | 12.3       | 0   | 13.3                    | 13.3     | 13.3       |
|               |             |       | 12               | 13           | 2   | 23.7                | 23.8     | 23.8       | 2   | 21.4                | 21.4     | 21.6       | 0   | 12.4                    | 12.4     | 12.4       | 0   | 13.3                    | 13.3     | 13.3       |
|               |             |       | 25               | 0            | 2   | 23.6                | 23.7     | 23.7       | 2   | 21.3                | 21.3     | 21.5       | 0   | 12.3                    | 12.4     | 12.4       | 0   | 13.2                    | 13.2     | 13.2       |

## LTE Band 12 Measured Results

| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |           |           | MPR | Max Power Antenna D |           |           | MPR | Reduced Power Antenna C |           |           | MPR | Reduced Power Antenna D |           |           |
|-------------|----------|-------|---------------|-----------|-----|---------------------|-----------|-----------|-----|---------------------|-----------|-----------|-----|-------------------------|-----------|-----------|-----|-------------------------|-----------|-----------|
|             |          |       |               |           |     | 707.5 MHz           |           |           |     | 707.5 MHz           |           |           |     | 704 MHz                 | 707.5 MHz | 711 MHz   |     | 704 MHz                 | 707.5 MHz | 711 MHz   |
| LTE Band 12 | 10       | QPSK  | 1             | 0         | 0   | 24.3                |           |           | 0   | 23.0                |           |           | 0   | 20.20                   |           |           | 0   |                         | 17.9      |           |
|             |          |       | 1             | 24        | 0   | 24.4                |           |           | 0   | 22.9                |           |           | 0   | 20.20                   |           |           | 0   |                         | 18.0      |           |
|             |          |       | 1             | 49        | 0   | 24.3                |           |           | 0   | 22.9                |           |           | 0   | 20.10                   |           |           | 0   |                         | 17.9      |           |
|             |          |       | 25            | 0         | 1   | 24.3                |           |           | 1   | 22.0                |           |           | 0   | 20.20                   |           |           | 0   |                         | 18.0      |           |
|             |          |       | 25            | 12        | 1   | 24.4                |           |           | 1   | 22.0                |           |           | 0   | 20.20                   |           |           | 0   |                         | 18.0      |           |
|             |          |       | 25            | 24        | 1   | 24.4                |           |           | 1   | 21.9                |           |           | 0   | 20.20                   |           |           | 0   |                         | 18.0      |           |
|             |          |       | 50            | 0         | 1   | 24.4                |           |           | 1   | 22.1                |           |           | 0   | 20.20                   |           |           | 0   |                         | 18.0      |           |
|             |          | 16QAM | 1             | 0         | 1   | 24.3                |           |           | 1   | 21.9                |           |           | 0   | 20.20                   |           |           | 0   |                         | 18.0      |           |
|             |          |       | 1             | 24        | 1   | 24.4                |           |           | 1   | 21.9                |           |           | 0   | 20.20                   |           |           | 0   |                         | 17.9      |           |
|             |          |       | 1             | 49        | 1   | 24.3                |           |           | 1   | 21.8                |           |           | 0   | 20.20                   |           |           | 0   |                         | 17.9      |           |
|             |          |       | 25            | 0         | 2   | 23.5                |           |           | 2   | 21.0                |           |           | 0   | 20.20                   |           |           | 0   |                         | 18.0      |           |
|             |          |       | 25            | 12        | 2   | 23.4                |           |           | 2   | 20.9                |           |           | 0   | 20.20                   |           |           | 0   |                         | 18.0      |           |
|             |          |       | 25            | 24        | 2   | 23.5                |           |           | 2   | 20.9                |           |           | 0   | 20.20                   |           |           | 0   |                         | 18.0      |           |
|             |          |       | 50            | 0         | 2   | 23.4                |           |           | 2   | 20.9                |           |           | 0   | 20.10                   |           |           | 0   |                         | 18.0      |           |
| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |           |           | MPR | Max Power Antenna D |           |           | MPR | Reduced Power Antenna C |           |           | MPR | Reduced Power Antenna D |           |           |
|             |          |       |               |           |     | 701.5 MHz           | 707.5 MHz | 713.5 MHz |     | 701.5 MHz           | 707.5 MHz | 713.5 MHz |     | 701.5 MHz               | 707.5 MHz | 713.5 MHz |     | 701.5 MHz               | 707.5 MHz | 713.5 MHz |
| LTE Band 12 | 5        | QPSK  | 1             | 0         | 0   | 24.5                | 24.4      | 24.5      | 0   | 23.0                | 22.8      | 22.8      | 0   | 20.2                    | 20.2      | 20.1      | 0   | 17.9                    | 17.8      | 17.9      |
|             |          |       | 1             | 12        | 0   | 24.4                | 24.4      | 24.3      | 0   | 22.8                | 22.8      | 22.7      | 0   | 20.1                    | 20.1      | 20.1      | 0   | 17.9                    | 17.8      | 17.8      |
|             |          |       | 1             | 24        | 0   | 24.4                | 24.5      | 24.4      | 0   | 22.8                | 22.8      | 22.7      | 0   | 20.2                    | 20.2      | 20.1      | 0   | 17.9                    | 17.8      | 17.8      |
|             |          |       | 12            | 0         | 1   | 24.4                | 24.4      | 24.4      | 1   | 21.8                | 21.7      | 21.7      | 0   | 20.1                    | 20.2      | 20.1      | 0   | 17.9                    | 17.8      | 17.8      |
|             |          |       | 12            | 7         | 1   | 24.4                | 24.4      | 24.4      | 1   | 21.9                | 21.8      | 21.7      | 0   | 20.1                    | 20.2      | 20.1      | 0   | 17.8                    | 17.9      | 17.8      |
|             |          |       | 12            | 13        | 1   | 24.3                | 24.4      | 24.4      | 1   | 21.8                | 21.6      | 21.7      | 0   | 20.1                    | 20.1      | 20.1      | 0   | 17.8                    | 17.8      | 17.8      |
|             |          |       | 25            | 0         | 1   | 24.4                | 24.4      | 24.4      | 1   | 21.8                | 21.7      | 21.7      | 0   | 20.1                    | 20.1      | 20.2      | 0   | 17.9                    | 17.8      | 17.8      |
|             |          | 16QAM | 1             | 0         | 1   | 24.6                | 24.5      | 25.0      | 1   | 22.4                | 22.0      | 21.9      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 17.9                    | 17.8      | 18.0      |
|             |          |       | 1             | 12        | 1   | 24.5                | 24.5      | 25.0      | 1   | 22.3                | 21.9      | 21.8      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 17.8                    | 17.8      | 18.0      |
|             |          |       | 1             | 24        | 1   | 24.5                | 24.6      | 25.0      | 1   | 22.5                | 21.9      | 21.9      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 17.8                    | 17.8      | 18.0      |
|             |          |       | 12            | 0         | 2   | 23.4                | 23.5      | 23.5      | 2   | 21.0                | 20.8      | 20.8      | 0   | 20.2                    | 20.1      | 20.1      | 0   | 18.0                    | 17.8      | 17.8      |
|             |          |       | 12            | 7         | 2   | 23.6                | 23.6      | 23.5      | 2   | 21.0                | 20.8      | 20.8      | 0   | 20.2                    | 20.2      | 20.1      | 0   | 18.0                    | 17.9      | 17.8      |
|             |          |       | 12            | 13        | 2   | 23.4                | 23.5      | 23.5      | 2   | 21.0                | 20.7      | 20.8      | 0   | 20.2                    | 20.1      | 20.1      | 0   | 18.0                    | 17.8      | 17.8      |
|             |          |       | 25            | 0         | 2   | 23.4                | 23.4      | 23.4      | 2   | 21.0                | 20.7      | 20.7      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 18.0                    | 18.0      | 17.8      |
| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |           |           | MPR | Max Power Antenna D |           |           | MPR | Reduced Power Antenna C |           |           | MPR | Reduced Power Antenna D |           |           |
|             |          |       |               |           |     | 700.5 MHz           | 707.5 MHz | 714.5 MHz |     | 700.5 MHz           | 707.5 MHz | 714.5 MHz |     | 700.5 MHz               | 707.5 MHz | 714.5 MHz |     | 700.5 MHz               | 707.5 MHz | 714.5 MHz |
| LTE Band 12 | 3        | QPSK  | 1             | 0         | 0   | 24.4                | 24.4      | 24.4      | 0   | 23.0                | 22.7      | 22.7      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 18.0                    | 17.9      | 17.8      |
|             |          |       | 1             | 8         | 0   | 24.4                | 24.4      | 24.5      | 0   | 22.9                | 22.9      | 22.7      | 0   | 20.1                    | 20.1      | 20.2      | 0   | 18.0                    | 17.9      | 17.8      |
|             |          |       | 1             | 14        | 0   | 24.3                | 24.3      | 24.4      | 0   | 22.8                | 22.7      | 22.6      | 0   | 20.1                    | 20.2      | 20.2      | 0   | 17.9                    | 18.0      | 17.8      |
|             |          |       | 8             | 0         | 1   | 24.4                | 24.4      | 24.4      | 1   | 21.9                | 21.7      | 21.7      | 0   | 20.1                    | 20.1      | 20.2      | 0   | 18.0                    | 17.9      | 17.9      |
|             |          |       | 8             | 4         | 1   | 24.3                | 24.3      | 24.4      | 1   | 21.8                | 21.7      | 21.7      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 18.0                    | 18.0      | 18.0      |
|             |          |       | 8             | 7         | 1   | 24.3                | 24.4      | 24.3      | 1   | 21.9                | 21.7      | 21.7      | 0   | 20.1                    | 20.1      | 20.2      | 0   | 18.0                    | 18.0      | 17.9      |
|             |          |       | 15            | 0         | 1   | 24.4                | 24.4      | 24.4      | 1   | 21.8                | 21.7      | 21.7      | 0   | 20.1                    | 20.1      | 20.2      | 0   | 18.0                    | 17.9      | 17.9      |
|             |          | 16QAM | 1             | 0         | 1   | 24.4                | 24.3      | 24.8      | 1   | 22.2                | 21.8      | 21.6      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 17.9                    | 18.0      | 17.8      |
|             |          |       | 1             | 8         | 1   | 24.5                | 24.4      | 24.9      | 1   | 22.3                | 21.9      | 21.6      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 17.9                    | 18.0      | 17.8      |
|             |          |       | 1             | 14        | 1   | 24.3                | 24.4      | 24.7      | 1   | 22.2                | 21.7      | 21.6      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 17.8                    | 18.0      | 17.8      |
|             |          |       | 8             | 0         | 2   | 23.4                | 23.4      | 23.4      | 2   | 20.8                | 20.9      | 20.8      | 0   | 20.2                    | 20.1      | 20.1      | 0   | 18.0                    | 17.9      | 17.9      |
|             |          |       | 8             | 4         | 2   | 23.4                | 23.4      | 23.4      | 2   | 20.8                | 20.9      | 20.8      | 0   | 20.2                    | 20.1      | 20.1      | 0   | 18.0                    | 18.0      | 18.0      |
|             |          |       | 8             | 7         | 2   | 23.4                | 23.4      | 23.4      | 2   | 20.8                | 20.9      | 20.8      | 0   | 20.1                    | 20.1      | 20.2      | 0   | 18.0                    | 18.0      | 17.9      |
|             |          |       | 15            | 0         | 2   | 23.3                | 23.5      | 23.4      | 2   | 21.0                | 20.7      | 20.7      | 0   | 20.2                    | 20.1      | 20.1      | 0   | 18.0                    | 17.9      | 18.0      |

**LTE Band 12 Measured Results (continued)**

| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna D |           |           | MPR | Max Power Antenna D |           |           | MPR | Reduced Power Antenna C |           |           | MPR | Reduced Power Antenna D |           |           |
|-------------|----------|-------|---------------|-----------|-----|---------------------|-----------|-----------|-----|---------------------|-----------|-----------|-----|-------------------------|-----------|-----------|-----|-------------------------|-----------|-----------|
|             |          |       |               |           |     | 699.7 MHz           | 707.5 MHz | 715.3 MHz |     | 699.7 MHz           | 707.5 MHz | 715.3 MHz |     | 699.7 MHz               | 707.5 MHz | 715.3 MHz |     | 699.7 MHz               | 707.5 MHz | 715.3 MHz |
| LTE Band 12 | 1.4      | QPSK  | 1             | 0         | 0   | 24.3                | 24.3      | 24.3      | 0   | 22.8                | 22.6      | 22.6      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 17.8                    | 17.8      | 17.8      |
|             |          |       | 1             | 2         | 0   | 24.3                | 24.4      | 24.4      | 0   | 22.9                | 22.7      | 22.7      | 0   | 20.2                    | 20.2      | 20.1      | 0   | 17.9                    | 17.9      | 17.9      |
|             |          |       | 1             | 5         | 0   | 24.3                | 24.3      | 24.3      | 0   | 22.8                | 22.7      | 22.6      | 0   | 20.2                    | 20.1      | 20.1      | 0   | 17.8                    | 17.8      | 17.8      |
|             |          |       | 3             | 0         | 0   | 24.4                | 24.4      | 24.5      | 0   | 22.9                | 22.7      | 22.7      | 0   | 20.2                    | 20.2      | 20.1      | 0   | 17.9                    | 17.8      | 17.8      |
|             |          |       | 3             | 1         | 0   | 24.4                | 24.5      | 24.5      | 0   | 23.0                | 22.8      | 22.8      | 0   | 20.2                    | 20.2      | 20.1      | 0   | 17.9                    | 17.8      | 17.8      |
|             |          |       | 3             | 2         | 0   | 24.4                | 24.4      | 24.5      | 0   | 22.9                | 22.7      | 22.8      | 0   | 20.2                    | 20.2      | 20.1      | 0   | 17.9                    | 17.8      | 17.8      |
|             |          | 16QAM | 6             | 0         | 1   | 24.3                | 24.4      | 24.4      | 1   | 21.8                | 21.7      | 21.6      | 0   | 20.2                    | 20.2      | 20.1      | 0   | 17.8                    | 17.8      | 17.8      |
|             |          |       | 1             | 0         | 1   | 24.4                | 24.7      | 24.4      | 1   | 21.9                | 21.8      | 22.0      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 18.0                    | 17.9      | 17.9      |
|             |          |       | 1             | 2         | 1   | 24.5                | 24.8      | 24.4      | 1   | 21.9                | 21.8      | 22.1      | 0   | 20.2                    | 20.1      | 20.2      | 0   | 18.0                    | 18.0      | 18.0      |
|             |          |       | 1             | 5         | 1   | 24.4                | 24.7      | 24.4      | 1   | 21.9                | 21.8      | 22.0      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 17.9                    | 17.9      | 17.9      |
|             |          |       | 3             | 0         | 1   | 24.5                | 24.6      | 24.5      | 1   | 22.0                | 21.8      | 21.8      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 18.0                    | 17.9      | 18.0      |
|             |          |       | 3             | 1         | 1   | 24.5                | 24.7      | 24.6      | 1   | 22.1                | 21.8      | 21.9      | 0   | 20.2                    | 20.2      | 20.1      | 0   | 18.0                    | 17.9      | 18.0      |
|             |          |       | 3             | 2         | 1   | 24.5                | 24.6      | 24.6      | 1   | 22.0                | 21.8      | 21.8      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 18.0                    | 17.9      | 18.0      |
|             |          |       | 6             | 0         | 2   | 23.5                | 23.3      | 23.5      | 2   | 21.0                | 20.8      | 20.5      | 0   | 20.2                    | 20.2      | 20.2      | 0   | 17.9                    | 17.8      | 17.9      |

**Note(s):**

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

**LTE Band 13 Measured Results**

| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |         |  | MPR | Max Power Antenna D |         |  | MPR | Reduced Power Antenna C |         |  | MPR | Reduced Power Antenna D |         |  |
|-------------|----------|-------|---------------|-----------|-----|---------------------|---------|--|-----|---------------------|---------|--|-----|-------------------------|---------|--|-----|-------------------------|---------|--|
|             |          |       |               |           |     |                     | 782 MHz |  |     |                     | 782 MHz |  |     |                         | 782 MHz |  |     |                         | 782 MHz |  |
| LTE Band 13 | 10       | QPSK  | 1             | 0         | 0   |                     | 24.2    |  | 0   |                     | 22.3    |  | 0   |                         | 19.2    |  | 0   |                         | 17.8    |  |
|             |          |       | 1             | 24        | 0   |                     | 24.3    |  | 0   |                     | 22.4    |  | 0   |                         | 19.2    |  | 0   |                         | 18.0    |  |
|             |          |       | 1             | 49        | 0   |                     | 24.4    |  | 0   |                     | 22.7    |  | 0   |                         | 19.1    |  | 0   |                         | 17.8    |  |
|             |          |       | 25            | 0         | 1   |                     | 24.0    |  | 1   |                     | 22.8    |  | 0   |                         | 19.2    |  | 0   |                         | 17.8    |  |
|             |          |       | 25            | 12        | 1   |                     | 24.0    |  | 1   |                     | 21.9    |  | 0   |                         | 19.2    |  | 0   |                         | 18.0    |  |
|             |          |       | 25            | 24        | 1   |                     | 23.9    |  | 1   |                     | 21.8    |  | 0   |                         | 19.2    |  | 0   |                         | 17.8    |  |
|             |          |       | 50            | 0         | 1   |                     | 24.0    |  | 1   |                     | 21.8    |  | 0   |                         | 19.2    |  | 0   |                         | 18.0    |  |
|             |          | 16QAM | 1             | 0         | 1   |                     | 23.2    |  | 1   |                     | 21.9    |  | 0   |                         | 19.0    |  | 0   |                         | 17.8    |  |
|             |          |       | 1             | 24        | 1   |                     | 23.8    |  | 1   |                     | 21.4    |  | 0   |                         | 19.1    |  | 0   |                         | 17.9    |  |
|             |          |       | 1             | 49        | 1   |                     | 23.5    |  | 1   |                     | 21.8    |  | 0   |                         | 19.0    |  | 0   |                         | 17.8    |  |
|             |          |       | 25            | 0         | 2   |                     | 23.0    |  | 2   |                     | 21.8    |  | 0   |                         | 19.2    |  | 0   |                         | 17.8    |  |
|             |          |       | 25            | 12        | 2   |                     | 22.9    |  | 2   |                     | 20.9    |  | 0   |                         | 19.2    |  | 0   |                         | 17.8    |  |
|             |          |       | 25            | 24        | 2   |                     | 22.9    |  | 2   |                     | 20.9    |  | 0   |                         | 19.0    |  | 0   |                         | 17.8    |  |
|             |          |       | 50            | 0         | 2   |                     | 23.1    |  | 2   |                     | 20.9    |  | 0   |                         | 19.2    |  | 0   |                         | 17.8    |  |
| LTE Band 13 | 5        | QPSK  | 1             | 0         | 0   |                     | 24.5    |  | 0   |                     | 22.8    |  | 0   |                         | 19.2    |  | 0   |                         | 17.9    |  |
|             |          |       | 1             | 12        | 0   |                     | 24.4    |  | 0   |                     | 22.7    |  | 0   |                         | 19.1    |  | 0   |                         | 17.8    |  |
|             |          |       | 1             | 24        | 0   |                     | 24.4    |  | 0   |                     | 22.8    |  | 0   |                         | 19.1    |  | 0   |                         | 17.8    |  |
|             |          |       | 12            | 0         | 1   |                     | 24.0    |  | 1   |                     | 21.8    |  | 0   |                         | 19.1    |  | 0   |                         | 17.8    |  |
|             |          |       | 12            | 7         | 1   |                     | 24.0    |  | 1   |                     | 21.8    |  | 0   |                         | 19.1    |  | 0   |                         | 17.9    |  |
|             |          |       | 12            | 13        | 1   |                     | 24.0    |  | 1   |                     | 21.9    |  | 0   |                         | 19.1    |  | 0   |                         | 17.8    |  |
|             |          |       | 25            | 0         | 1   |                     | 23.9    |  | 1   |                     | 21.8    |  | 0   |                         | 19.1    |  | 0   |                         | 17.8    |  |
|             |          | 16QAM | 1             | 0         | 1   |                     | 24.1    |  | 1   |                     | 22.3    |  | 0   |                         | 19.2    |  | 0   |                         | 18.0    |  |
|             |          |       | 1             | 12        | 1   |                     | 24.0    |  | 1   |                     | 22.3    |  | 0   |                         | 19.2    |  | 0   |                         | 17.9    |  |
|             |          |       | 1             | 24        | 1   |                     | 24.0    |  | 1   |                     | 22.4    |  | 0   |                         | 19.2    |  | 0   |                         | 17.9    |  |
|             |          |       | 12            | 0         | 2   |                     | 23.1    |  | 2   |                     | 21.0    |  | 0   |                         | 19.1    |  | 0   |                         | 17.8    |  |
|             |          |       | 12            | 7         | 2   |                     | 23.0    |  | 2   |                     | 20.9    |  | 0   |                         | 19.2    |  | 0   |                         | 17.8    |  |
|             |          |       | 12            | 13        | 2   |                     | 23.0    |  | 2   |                     | 21.0    |  | 0   |                         | 19.2    |  | 0   |                         | 17.9    |  |
|             |          |       | 25            | 0         | 2   |                     | 23.0    |  | 2   |                     | 20.9    |  | 0   |                         | 19.1    |  | 0   |                         | 17.8    |  |

**Note(s):**

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

**LTE Band 17 Measured Results**

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

## LTE Band 25 Measured Results

| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |            |            | MPR | Max Power Antenna D |            |            | MPR | Reduced Power Antenna C |            |            | MPR | Reduced Power Antenna D |            |            |
|-------------|----------|-------|---------------|-----------|-----|---------------------|------------|------------|-----|---------------------|------------|------------|-----|-------------------------|------------|------------|-----|-------------------------|------------|------------|
|             |          |       |               |           |     | 1860 MHz            | 1882.5 MHz | 1905 MHz   |     | 1860 MHz            | 1882.5 MHz | 1905 MHz   |     | 1860 MHz                | 1882.5 MHz | 1905 MHz   |     | 1860 MHz                | 1882.5 MHz | 1905 MHz   |
| LTE Band 25 | 20       | QPSK  | 1             | 0         | 0   | 24.4                | 24.3       | 24.3       | 0   | 22.4                | 22.4       | 22.1       | 0   | 12.2                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 1             | 49        | 0   | 24.6                | 24.5       | 24.5       | 0   | 22.5                | 22.3       | 22.2       | 0   | 12.3                    | 12.3       | 12.2       | 0   | 14.0                    | 13.9       | 14.0       |
|             |          |       | 1             | 99        | 0   | 24.3                | 24.2       | 24.2       | 0   | 22.2                | 22.0       | 21.9       | 0   | 12.1                    | 12.1       | 12.1       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 50            | 0         | 1   | 24.5                | 24.5       | 24.5       | 1   | 21.4                | 21.4       | 21.2       | 0   | 12.3                    | 12.2       | 12.3       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 50            | 24        | 1   | 24.6                | 24.5       | 24.5       | 1   | 21.5                | 21.4       | 21.2       | 0   | 12.3                    | 12.3       | 12.3       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          |       | 50            | 49        | 1   | 24.6                | 24.5       | 24.4       | 1   | 21.4                | 21.2       | 21.1       | 0   | 12.1                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 100           | 0         | 1   | 24.5                | 24.4       | 24.4       | 1   | 21.4                | 21.3       | 21.2       | 0   | 12.3                    | 12.3       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          | 16QAM | 1             | 0         | 1   | 24.8                | 24.7       | 24.8       | 1   | 21.8                | 21.8       | 21.7       | 0   | 12.3                    | 12.1       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          |       | 1             | 49        | 1   | 25.0                | 24.9       | 24.9       | 1   | 21.9                | 21.7       | 21.8       | 0   | 12.2                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          |       | 1             | 99        | 1   | 24.6                | 24.6       | 24.6       | 1   | 21.6                | 21.5       | 21.4       | 0   | 12.2                    | 12.2       | 12.1       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          |       | 50            | 0         | 2   | 23.5                | 23.5       | 23.4       | 2   | 20.4                | 20.4       | 20.2       | 0   | 12.1                    | 12.2       | 12.2       | 0   | 14.0                    | 13.8       | 14.0       |
|             |          |       | 50            | 24        | 2   | 23.6                | 23.6       | 23.5       | 2   | 20.5                | 20.4       | 20.2       | 0   | 12.1                    | 12.2       | 12.1       | 0   | 14.0                    | 13.8       | 14.0       |
|             |          |       | 50            | 49        | 2   | 23.5                | 23.5       | 23.4       | 2   | 20.4                | 20.3       | 20.2       | 0   | 12.2                    | 12.3       | 12.1       | 0   | 14.0                    | 13.8       | 14.0       |
|             |          |       | 100           | 0         | 2   | 23.5                | 23.4       | 23.4       | 2   | 20.4                | 20.3       | 20.2       | 0   | 12.1                    | 12.2       | 12.2       | 0   | 13.9                    | 13.9       | 13.9       |
| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |            |            | MPR | Max Power Antenna D |            |            | MPR | Reduced Power Antenna C |            |            | MPR | Reduced Power Antenna D |            |            |
|             |          |       |               |           |     | 1857.5 MHz          | 1882.5 MHz | 1907.5 MHz |     | 1857.5 MHz          | 1882.5 MHz | 1907.5 MHz |     | 1857.5 MHz              | 1882.5 MHz | 1907.5 MHz |     | 1857.5 MHz              | 1882.5 MHz | 1907.5 MHz |
| LTE Band 25 | 15       | QPSK  | 1             | 0         | 0   | 24.4                | 24.3       | 24.2       | 0   | 22.4                | 22.4       | 22.2       | 0   | 12.2                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 1             | 36        | 0   | 24.3                | 24.4       | 24.3       | 0   | 22.2                | 22.1       | 22.1       | 0   | 12.2                    | 12.3       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 1             | 74        | 0   | 24.3                | 24.3       | 24.2       | 0   | 22.3                | 22.3       | 22.0       | 0   | 12.1                    | 12.1       | 12.1       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 36            | 0         | 1   | 24.6                | 24.5       | 24.5       | 1   | 21.5                | 21.4       | 21.3       | 0   | 12.3                    | 12.1       | 12.3       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 36            | 18        | 1   | 24.6                | 24.5       | 24.5       | 1   | 21.5                | 21.5       | 21.3       | 0   | 12.3                    | 12.3       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          |       | 36            | 37        | 1   | 24.5                | 24.5       | 24.3       | 1   | 21.6                | 21.4       | 21.2       | 0   | 12.3                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 75            | 0         | 1   | 24.5                | 24.5       | 24.4       | 1   | 21.5                | 21.4       | 21.2       | 0   | 12.2                    | 12.2       | 12.3       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          | 16QAM | 1             | 0         | 1   | 24.7                | 24.7       | 24.0       | 1   | 21.3                | 21.7       | 21.6       | 0   | 12.2                    | 12.3       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          |       | 1             | 36        | 1   | 25.0                | 24.9       | 24.2       | 1   | 21.3                | 21.8       | 21.6       | 0   | 12.2                    | 12.2       | 12.3       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          |       | 1             | 74        | 1   | 24.6                | 24.7       | 23.9       | 1   | 21.1                | 21.6       | 21.3       | 0   | 12.2                    | 12.1       | 12.1       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          |       | 36            | 0         | 2   | 23.6                | 23.5       | 23.4       | 2   | 20.5                | 20.4       | 20.3       | 0   | 12.1                    | 12.1       | 12.3       | 0   | 14.0                    | 13.8       | 14.0       |
|             |          |       | 36            | 18        | 2   | 23.7                | 23.5       | 23.5       | 2   | 20.5                | 20.5       | 20.2       | 0   | 12.1                    | 12.2       | 12.2       | 0   | 14.0                    | 13.8       | 14.0       |
|             |          |       | 36            | 37        | 2   | 23.6                | 23.5       | 23.4       | 2   | 20.5                | 20.4       | 20.2       | 0   | 12.2                    | 12.1       | 12.2       | 0   | 14.0                    | 13.8       | 14.0       |
|             |          |       | 75            | 0         | 2   | 23.6                | 23.5       | 23.5       | 2   | 20.5                | 20.4       | 20.2       | 0   | 12.2                    | 12.1       | 12.2       | 0   | 13.9                    | 13.9       | 13.9       |
| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |            |            | MPR | Max Power Antenna D |            |            | MPR | Reduced Power Antenna C |            |            | MPR | Reduced Power Antenna D |            |            |
|             |          |       |               |           |     | 1855 MHz            | 1882.5 MHz | 1910 MHz   |     | 1855 MHz            | 1882.5 MHz | 1910 MHz   |     | 1855 MHz                | 1882.5 MHz | 1910 MHz   |     | 1855 MHz                | 1882.5 MHz | 1910 MHz   |
| LTE Band 25 | 10       | QPSK  | 1             | 0         | 0   | 24.6                | 24.5       | 24.5       | 0   | 22.5                | 22.5       | 22.3       | 0   | 12.3                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 1             | 24        | 0   | 24.6                | 24.5       | 24.4       | 0   | 22.5                | 22.4       | 22.2       | 0   | 12.2                    | 12.1       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 1             | 49        | 0   | 24.5                | 24.5       | 24.4       | 0   | 22.4                | 22.3       | 21.8       | 0   | 12.2                    | 12.1       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 25            | 0         | 1   | 24.5                | 24.6       | 24.3       | 1   | 21.6                | 21.4       | 21.3       | 0   | 12.3                    | 12.2       | 12.1       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 25            | 12        | 1   | 24.7                | 24.6       | 24.3       | 1   | 21.6                | 21.5       | 21.3       | 0   | 12.3                    | 12.2       | 12.1       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          |       | 25            | 24        | 1   | 24.5                | 24.5       | 24.1       | 1   | 21.4                | 21.4       | 21.2       | 0   | 12.2                    | 12.2       | 12.1       | 0   | 14.0                    | 14.0       | 13.9       |
|             |          |       | 50            | 0         | 1   | 24.6                | 24.5       | 24.2       | 1   | 21.6                | 21.4       | 21.3       | 0   | 12.3                    | 12.2       | 12.1       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          | 16QAM | 1             | 0         | 1   | 24.4                | 24.5       | 24.1       | 1   | 21.9                | 21.5       | 21.2       | 0   | 12.3                    | 12.1       | 12.3       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          |       | 1             | 24        | 1   | 25.0                | 24.5       | 24.2       | 1   | 21.9                | 21.4       | 21.1       | 0   | 12.2                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          |       | 1             | 49        | 1   | 24.8                | 24.5       | 23.6       | 1   | 21.8                | 21.3       | 20.7       | 0   | 12.2                    | 12.2       | 12.1       | 0   | 14.0                    | 14.0       | 14.0       |
|             |          |       | 25            | 0         | 2   | 23.5                | 23.6       | 23.4       | 2   | 20.6                | 20.5       | 20.3       | 0   | 12.2                    | 12.2       | 12.1       | 0   | 14.0                    | 13.8       | 14.0       |
|             |          |       | 25            | 12        | 2   | 23.7                | 23.7       | 23.3       | 2   | 20.6                | 20.5       | 20.3       | 0   | 12.2                    | 12.2       | 12.2       | 0   | 14.0                    | 13.8       | 14.0       |
|             |          |       | 25            | 24        | 2   | 23.6                | 23.6       | 23.2       | 2   | 20.5                | 20.4       | 20.3       | 0   | 12.1                    | 12.1       | 12.2       | 0   | 14.0                    | 13.8       | 14.0       |
|             |          |       | 50            | 0         | 2   | 23.6                | 23.5       | 23.3       | 2   | 20.5                | 20.5       | 20.3       | 0   | 12.2                    | 12.1       | 12.3       | 0   | 13.9                    | 13.9       | 13.9       |

**LTE Band 25 Measured Results (continued)**

| Band        | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MPR | Max Power Antenna C |            |            | MPR | Max Power Antenna D |            |            | MPR | Reduced Power Antenna C |            |            | MPR | Reduced Power Antenna D |            |            |
|-------------|-------------|-------|------------------|--------------|-----|---------------------|------------|------------|-----|---------------------|------------|------------|-----|-------------------------|------------|------------|-----|-------------------------|------------|------------|
|             |             |       |                  |              |     | 1852.5 MHz          | 1882.5 MHz | 1912.5 MHz |     | 1852.5 MHz          | 1882.5 MHz | 1912.5 MHz |     | 1852.5 MHz              | 1882.5 MHz | 1912.5 MHz |     | 1852.5 MHz              | 1882.5 MHz | 1912.5 MHz |
| LTE Band 25 | 5           | QPSK  | 1                | 0            | 0   | 24.6                | 24.5       | 24.5       | 0   | 22.5                | 22.4       | 22.3       | 0   | 12.2                    | 12.1       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             |       | 1                | 12           | 0   | 24.7                | 24.5       | 24.5       | 0   | 22.5                | 22.4       | 22.2       | 0   | 12.2                    | 12.1       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             |       | 1                | 24           | 0   | 24.6                | 24.5       | 24.5       | 0   | 22.5                | 22.3       | 21.7       | 0   | 12.2                    | 12.1       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             |       | 12               | 0            | 1   | 24.3                | 24.6       | 24.2       | 1   | 21.5                | 21.4       | 21.2       | 0   | 12.2                    | 12.1       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             |       | 12               | 7            | 1   | 24.5                | 24.5       | 24.2       | 1   | 21.5                | 21.4       | 21.2       | 0   | 12.2                    | 12.1       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 12               | 13           | 1   | 24.6                | 24.6       | 24.1       | 1   | 21.5                | 21.3       | 21.2       | 0   | 12.2                    | 12.1       | 12.1       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             | 16QAM | 25               | 0            | 1   | 24.4                | 24.5       | 24.1       | 1   | 21.5                | 21.4       | 21.2       | 0   | 12.2                    | 12.1       | 12.1       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 1                | 0            | 1   | 24.5                | 24.6       | 24.4       | 1   | 22.1                | 21.6       | 21.4       | 0   | 12.2                    | 12.2       | 12.3       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 1                | 12           | 1   | 25.0                | 24.6       | 24.2       | 1   | 22.0                | 21.5       | 21.4       | 0   | 12.2                    | 12.3       | 12.3       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 1                | 24           | 1   | 25.0                | 24.6       | 23.9       | 1   | 22.0                | 21.5       | 21.0       | 0   | 12.1                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 12               | 0            | 2   | 23.4                | 23.6       | 23.3       | 2   | 20.7                | 20.4       | 20.3       | 0   | 12.3                    | 12.2       | 12.1       | 0   | 14.0                    | 13.8       | 14.0       |
|             |             |       | 12               | 7            | 2   | 23.6                | 23.6       | 23.3       | 2   | 20.7                | 20.5       | 20.4       | 0   | 12.3                    | 12.2       | 12.1       | 0   | 14.0                    | 13.8       | 14.0       |
|             |             |       | 12               | 13           | 2   | 23.7                | 23.6       | 23.2       | 2   | 20.7                | 20.4       | 20.3       | 0   | 12.3                    | 12.2       | 12.1       | 0   | 14.0                    | 13.8       | 14.0       |
|             |             |       | 25               | 0            | 2   | 23.5                | 23.5       | 23.2       | 2   | 20.6                | 20.4       | 20.3       | 0   | 12.2                    | 12.2       | 12.1       | 0   | 13.9                    | 13.9       | 13.9       |
| Band        | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MPR | Max Power Antenna C |            |            | MPR | Max Power Antenna D |            |            | MPR | Reduced Power Antenna C |            |            | MPR | Reduced Power Antenna D |            |            |
|             |             |       |                  |              |     | 1851.5 MHz          | 1882.5 MHz | 1913.5 MHz |     | 1851.5 MHz          | 1882.5 MHz | 1913.5 MHz |     | 1851.5 MHz              | 1882.5 MHz | 1913.5 MHz |     | 1851.5 MHz              | 1882.5 MHz | 1913.5 MHz |
| LTE Band 25 | 3           | QPSK  | 1                | 0            | 0   | 24.6                | 24.6       | 24.5       | 0   | 22.5                | 22.4       | 22.3       | 0   | 12.2                    | 12.3       | 12.1       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             |       | 1                | 8            | 0   | 24.7                | 24.5       | 24.5       | 0   | 22.5                | 22.4       | 22.1       | 0   | 12.2                    | 12.1       | 12.1       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             |       | 1                | 14           | 0   | 24.6                | 24.4       | 24.4       | 0   | 22.4                | 22.2       | 21.8       | 0   | 12.2                    | 12.2       | 12.1       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             |       | 8                | 0            | 1   | 24.2                | 24.5       | 24.1       | 1   | 21.5                | 21.5       | 21.3       | 0   | 12.3                    | 12.2       | 12.3       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             |       | 8                | 4            | 1   | 24.3                | 24.5       | 24.1       | 1   | 21.5                | 21.4       | 21.3       | 0   | 12.3                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 8                | 7            | 1   | 24.3                | 24.5       | 24.0       | 1   | 21.5                | 21.4       | 21.3       | 0   | 12.2                    | 12.3       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             | 16QAM | 15               | 0            | 1   | 24.3                | 24.5       | 24.0       | 1   | 21.5                | 21.4       | 21.2       | 0   | 12.2                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 1                | 0            | 1   | 24.4                | 24.6       | 24.0       | 1   | 21.5                | 21.3       | 21.6       | 0   | 12.2                    | 12.3       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 1                | 8            | 1   | 24.7                | 24.6       | 23.9       | 1   | 21.6                | 21.4       | 21.6       | 0   | 12.2                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 1                | 14           | 1   | 24.9                | 24.5       | 23.6       | 1   | 21.4                | 21.2       | 21.2       | 0   | 12.2                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 8                | 0            | 2   | 23.1                | 23.8       | 23.2       | 2   | 20.7                | 20.5       | 20.2       | 0   | 12.2                    | 12.3       | 12.3       | 0   | 14.0                    | 13.8       | 14.0       |
|             |             |       | 8                | 4            | 2   | 23.2                | 23.7       | 23.3       | 2   | 20.7                | 20.5       | 20.2       | 0   | 12.2                    | 12.3       | 12.3       | 0   | 14.0                    | 13.8       | 14.0       |
|             |             |       | 8                | 7            | 2   | 23.2                | 23.7       | 23.2       | 2   | 20.7                | 20.5       | 20.2       | 0   | 12.1                    | 12.3       | 12.3       | 0   | 14.0                    | 13.8       | 14.0       |
|             |             |       | 15               | 0            | 2   | 23.4                | 23.4       | 23.1       | 2   | 20.4                | 20.4       | 20.3       | 0   | 12.2                    | 12.2       | 12.3       | 0   | 13.9                    | 13.9       | 13.9       |
| Band        | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MPR | Max Power Antenna C |            |            | MPR | Max Power Antenna D |            |            | MPR | Reduced Power Antenna C |            |            | MPR | Reduced Power Antenna D |            |            |
|             |             |       |                  |              |     | 1850.7 MHz          | 1882.5 MHz | 1914.3 MHz |     | 1850.7 MHz          | 1882.5 MHz | 1914.3 MHz |     | 1850.7 MHz              | 1882.5 MHz | 1914.3 MHz |     | 1850.7 MHz              | 1882.5 MHz | 1914.3 MHz |
| LTE Band 25 | 1.4         | QPSK  | 1                | 0            | 0   | 24.5                | 24.4       | 24.4       | 0   | 22.5                | 22.3       | 22.1       | 0   | 12.2                    | 12.2       | 12.1       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             |       | 1                | 3            | 0   | 24.5                | 24.5       | 24.5       | 0   | 22.4                | 22.3       | 22.0       | 0   | 12.3                    | 12.1       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             |       | 1                | 5            | 0   | 24.5                | 24.4       | 24.4       | 0   | 22.3                | 22.3       | 21.7       | 0   | 12.2                    | 12.1       | 12.1       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             |       | 3                | 0            | 0   | 24.6                | 24.5       | 24.6       | 0   | 22.3                | 22.4       | 22.0       | 0   | 12.3                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             |       | 3                | 1            | 0   | 24.6                | 24.5       | 24.6       | 0   | 22.5                | 22.4       | 21.9       | 0   | 12.2                    | 12.2       | 12.2       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 3                | 3            | 0   | 24.7                | 24.5       | 24.5       | 0   | 22.5                | 22.4       | 21.8       | 0   | 12.2                    | 12.1       | 12.1       | 0   | 14.0                    | 14.0       | 13.9       |
|             |             | 16QAM | 6                | 0            | 1   | 24.1                | 24.4       | 23.9       | 1   | 21.4                | 21.3       | 21.0       | 0   | 12.2                    | 12.1       | 12.1       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 1                | 0            | 1   | 24.1                | 24.8       | 23.9       | 1   | 21.5                | 21.7       | 21.0       | 0   | 12.2                    | 12.1       | 12.1       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 1                | 3            | 1   | 24.2                | 24.9       | 23.9       | 1   | 21.5                | 21.8       | 21.0       | 0   | 12.3                    | 12.2       | 12.1       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 1                | 5            | 1   | 24.3                | 24.7       | 23.8       | 1   | 21.5                | 21.6       | 20.8       | 0   | 12.2                    | 12.1       | 12.1       | 0   | 14.0                    | 14.0       | 14.0       |
|             |             |       | 3                | 0            | 1   | 24.0                | 24.6       | 24.0       | 1   | 21.6                | 21.6       | 21.1       | 0   | 12.3                    | 12.2       | 12.2       | 0   | 14.0                    | 13.8       | 14.0       |
|             |             |       | 3                | 1            | 1   | 24.1                | 24.6       | 24.1       | 1   | 21.6                | 21.6       | 21.2       | 0   | 12.3                    | 12.2       | 12.1       | 0   | 14.0                    | 13.8       | 14.0       |
|             |             |       | 3                | 3            | 1   | 24.2                | 24.6       | 24.0       | 1   | 21.6                | 21.6       | 21.1       | 0   | 12.2                    | 12.1       | 12.1       | 0   | 14.0                    | 13.8       | 14.0       |
|             |             |       | 6                | 0            | 2   | 23.3                | 23.4       | 23.1       | 2   | 20.6                | 20.2       | 20.2       | 0   | 12.2                    | 12.3       | 12.3       | 0   | 13.9                    | 13.9       | 13.9       |

## LTE Band 26 Measured Results

| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |           |           | MPR | Max Power Antenna D |           |           | MPR | Reduced Power Antenna C |           |           | MPR | Reduced Power Antenna D |           |           |
|-------------|----------|-------|---------------|-----------|-----|---------------------|-----------|-----------|-----|---------------------|-----------|-----------|-----|-------------------------|-----------|-----------|-----|-------------------------|-----------|-----------|
|             |          |       |               |           |     | 819 MHz             | 831.5 MHz | 844 MHz   |     | 819 MHz             | 831.5 MHz | 844 MHz   |     | 819 MHz                 | 831.5 MHz | 844 MHz   |     | 819 MHz                 | 831.5 MHz | 844 MHz   |
| LTE Band 26 | 10       | QPSK  | 1             | 0         | 0   | 24.4                | 24.5      | 24.4      | 0   | 24.0                | 23.8      | 23.7      | 0   | 18.5                    | 18.4      | 18.3      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 1             | 24        | 0   | 24.5                | 24.5      | 24.3      | 0   | 24.0                | 23.7      | 23.4      | 0   | 18.4                    | 18.4      | 18.5      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 1             | 49        | 0   | 24.3                | 24.4      | 24.2      | 0   | 23.9                | 23.7      | 23.2      | 0   | 18.4                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 25            | 0         | 1   | 24.5                | 23.6      | 23.5      | 1   | 23.0                | 22.8      | 22.5      | 0   | 18.5                    | 18.3      | 18.4      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 25            | 12        | 1   | 24.5                | 23.6      | 23.5      | 1   | 23.0                | 22.8      | 22.6      | 0   | 18.5                    | 18.4      | 18.5      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 25            | 24        | 1   | 24.5                | 23.5      | 23.4      | 1   | 23.0                | 22.7      | 22.5      | 0   | 18.5                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          | 16QAM | 50            | 0         | 1   | 24.5                | 23.6      | 23.5      | 1   | 23.0                | 22.7      | 22.6      | 0   | 18.5                    | 18.4      | 18.5      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 1             | 0         | 1   | 24.5                | 23.9      | 23.3      | 1   | 23.0                | 23.0      | 22.8      | 0   | 18.3                    | 18.4      | 18.5      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 1             | 24        | 1   | 24.4                | 23.9      | 23.3      | 1   | 23.0                | 22.8      | 22.7      | 0   | 18.4                    | 18.4      | 18.5      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 1             | 49        | 1   | 24.3                | 23.9      | 23.3      | 1   | 22.9                | 22.9      | 22.4      | 0   | 18.3                    | 18.3      | 18.4      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 25            | 0         | 2   | 23.6                | 22.5      | 22.9      | 2   | 22.0                | 21.8      | 21.7      | 0   | 18.4                    | 18.3      | 18.4      | 0   | 18.3                    | 18.3      | 18.1      |
|             |          |       | 25            | 12        | 2   | 23.6                | 22.5      | 22.9      | 2   | 22.0                | 21.8      | 21.6      | 0   | 18.5                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.1      |
|             |          |       | 25            | 24        | 2   | 23.5                | 22.4      | 22.9      | 2   | 22.0                | 21.8      | 21.6      | 0   | 18.4                    | 18.4      | 18.3      | 0   | 18.3                    | 18.3      | 18.1      |
|             |          |       | 50            | 0         | 2   | 23.5                | 22.5      | 22.9      | 2   | 22.0                | 21.7      | 21.5      | 0   | 18.4                    | 18.3      | 18.4      | 0   | 18.3                    | 18.2      | 18.2      |
| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |           |           | MPR | Max Power Antenna D |           |           | MPR | Reduced Power Antenna C |           |           | MPR | Reduced Power Antenna D |           |           |
|             |          |       |               |           |     | 816.5 MHz           | 831.5 MHz | 846.5 MHz |     | 816.5 MHz           | 831.5 MHz | 846.5 MHz |     | 816.5 MHz               | 831.5 MHz | 846.5 MHz |     | 816.5 MHz               | 831.5 MHz | 846.5 MHz |
| LTE Band 26 | 5        | QPSK  | 1             | 0         | 0   | 24.6                | 24.4      | 24.3      | 0   | 24.0                | 23.8      | 23.7      | 0   | 18.4                    | 18.3      | 18.4      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 1             | 12        | 0   | 24.5                | 24.4      | 24.2      | 0   | 23.9                | 23.7      | 23.4      | 0   | 18.4                    | 18.4      | 18.3      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 1             | 24        | 0   | 24.6                | 24.3      | 24.2      | 0   | 24.0                | 23.7      | 23.2      | 0   | 18.4                    | 18.5      | 18.3      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 12            | 0         | 1   | 24.5                | 24.4      | 24.2      | 1   | 23.0                | 22.8      | 22.5      | 0   | 18.4                    | 18.3      | 18.4      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 12            | 7         | 1   | 24.5                | 24.4      | 24.2      | 1   | 22.9                | 22.8      | 22.6      | 0   | 18.4                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 12            | 13        | 1   | 24.5                | 24.3      | 24.2      | 1   | 22.9                | 22.7      | 22.5      | 0   | 18.4                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          | 16QAM | 25            | 0         | 1   | 24.5                | 24.4      | 24.2      | 1   | 22.9                | 22.7      | 22.6      | 0   | 18.3                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 1             | 0         | 1   | 24.7                | 24.6      | 24.8      | 1   | 23.0                | 23.0      | 22.8      | 0   | 18.4                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 1             | 12        | 1   | 24.6                | 24.5      | 24.8      | 1   | 23.0                | 22.8      | 22.7      | 0   | 18.3                    | 18.1      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 1             | 24        | 1   | 24.6                | 24.5      | 24.8      | 1   | 23.0                | 22.9      | 22.4      | 0   | 18.3                    | 18.3      | 18.4      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 12            | 0         | 2   | 23.6                | 23.5      | 23.4      | 2   | 22.0                | 21.8      | 21.7      | 0   | 18.5                    | 18.5      | 18.4      | 0   | 18.3                    | 18.2      | 18.2      |
|             |          |       | 12            | 7         | 2   | 23.6                | 23.5      | 23.3      | 2   | 22.0                | 21.8      | 21.6      | 0   | 18.5                    | 18.5      | 18.4      | 0   | 18.3                    | 18.2      | 18.2      |
|             |          |       | 12            | 13        | 2   | 23.6                | 23.4      | 23.4      | 2   | 22.0                | 21.8      | 21.6      | 0   | 18.5                    | 18.4      | 18.4      | 0   | 18.3                    | 18.3      | 18.1      |
|             |          |       | 25            | 0         | 2   | 23.5                | 23.4      | 23.3      | 2   | 22.0                | 21.7      | 21.5      | 0   | 18.4                    | 18.5      | 18.3      | 0   | 18.3                    | 18.2      | 18.2      |

## LTE Band 26 Measured Results (continued)

| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |           |           | MPR | Max Power Antenna D |           |           | MPR | Reduced Power Antenna C |           |           | MPR | Reduced Power Antenna D |           |           |
|-------------|----------|-------|---------------|-----------|-----|---------------------|-----------|-----------|-----|---------------------|-----------|-----------|-----|-------------------------|-----------|-----------|-----|-------------------------|-----------|-----------|
|             |          |       |               |           |     | 815.5 MHz           | 831.5 MHz | 847.5 MHz |     | 815.5 MHz           | 831.5 MHz | 847.5 MHz |     | 815.5 MHz               | 831.5 MHz | 847.5 MHz |     | 815.5 MHz               | 831.5 MHz | 847.5 MHz |
| LTE Band 26 | 3        | QPSK  | 1             | 0         | 0   | 24.5                | 24.3      | 24.2      | 0   | 24.0                | 23.7      | 23.6      | 0   | 18.4                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 1             | 8         | 0   | 24.6                | 24.3      | 24.2      | 0   | 24.0                | 23.8      | 23.6      | 0   | 18.4                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 1             | 14        | 0   | 24.5                | 24.2      | 24.1      | 0   | 23.9                | 23.7      | 23.1      | 0   | 18.4                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 8             | 0         | 1   | 24.5                | 24.3      | 24.2      | 1   | 22.9                | 22.7      | 22.6      | 1   | 18.4                    | 18.3      | 18.4      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 8             | 4         | 1   | 24.5                | 24.3      | 24.2      | 1   | 22.9                | 22.7      | 22.5      | 1   | 18.5                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 8             | 7         | 1   | 24.5                | 24.3      | 24.2      | 1   | 22.9                | 22.7      | 22.6      | 1   | 18.4                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          | 16QAM | 15            | 0         | 1   | 24.5                | 24.3      | 24.2      | 1   | 22.9                | 22.8      | 22.6      | 1   | 18.4                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 1             | 0         | 1   | 24.5                | 24.3      | 24.6      | 1   | 23.0                | 22.8      | 22.4      | 1   | 18.3                    | 18.3      | 18.4      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 1             | 8         | 1   | 24.6                | 24.4      | 24.7      | 1   | 23.0                | 22.8      | 22.4      | 1   | 18.3                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 1             | 14        | 1   | 24.5                | 24.2      | 24.6      | 1   | 23.0                | 22.7      | 22.1      | 1   | 18.3                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 8             | 0         | 2   | 23.7                | 23.5      | 23.1      | 2   | 21.8                | 21.9      | 21.6      | 2   | 18.4                    | 18.3      | 18.4      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 8             | 4         | 2   | 23.7                | 23.4      | 23.1      | 2   | 21.8                | 21.9      | 21.6      | 2   | 18.5                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 8             | 7         | 2   | 23.7                | 23.4      | 23.1      | 2   | 21.8                | 21.9      | 21.6      | 2   | 18.4                    | 18.3      | 18.3      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 15            | 0         | 2   | 23.5                | 23.4      | 23.3      | 2   | 22.0                | 21.7      | 21.6      | 2   | 18.5                    | 18.3      | 18.3      | 0   | 18.3                    | 18.2      | 18.2      |
|             |          |       |               |           |     |                     |           |           |     |                     |           |           |     |                         |           |           |     |                         |           |           |
| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |           |           | MPR | Max Power Antenna D |           |           | MPR | Reduced Power Antenna C |           |           | MPR | Reduced Power Antenna D |           |           |
|             |          |       |               |           |     | 814.7 MHz           | 831.5 MHz | 848.3 MHz |     | 814.7 MHz           | 831.5 MHz | 848.3 MHz |     | 814.7 MHz               | 831.5 MHz | 848.3 MHz |     | 814.7 MHz               | 831.5 MHz | 848.3 MHz |
| LTE Band 26 | 1.4      | QPSK  | 1             | 0         | 0   | 24.5                | 24.3      | 24.0      | 0   | 23.8                | 23.6      | 23.4      | 0   | 18.5                    | 18.4      | 18.4      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 1             | 3         | 0   | 24.4                | 24.3      | 24.1      | 0   | 23.9                | 23.6      | 23.3      | 0   | 18.1                    | 18.5      | 18.5      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 1             | 5         | 0   | 24.4                | 24.2      | 24.0      | 0   | 23.8                | 23.6      | 23.0      | 0   | 18.5                    | 18.4      | 18.4      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 3             | 0         | 0   | 24.5                | 24.3      | 24.2      | 0   | 24.0                | 23.7      | 23.3      | 0   | 18.5                    | 18.5      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 3             | 1         | 0   | 24.5                | 24.4      | 24.2      | 0   | 24.0                | 23.7      | 23.3      | 0   | 18.5                    | 18.5      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 3             | 3         | 0   | 24.5                | 24.3      | 24.2      | 0   | 24.0                | 23.7      | 23.2      | 0   | 18.4                    | 18.5      | 18.3      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          | 16QAM | 6             | 0         | 1   | 24.4                | 24.3      | 24.1      | 1   | 22.8                | 22.6      | 22.4      | 1   | 18.4                    | 18.4      | 18.4      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 1             | 0         | 1   | 24.5                | 24.6      | 24.1      | 1   | 22.8                | 22.7      | 22.8      | 1   | 18.3                    | 18.3      | 18.5      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 1             | 3         | 1   | 24.6                | 24.7      | 24.2      | 1   | 22.8                | 22.8      | 22.8      | 1   | 18.4                    | 18.4      | 18.5      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 1             | 5         | 1   | 24.6                | 24.6      | 24.1      | 1   | 22.8                | 22.7      | 22.5      | 1   | 18.3                    | 18.3      | 18.5      | 0   | 18.3                    | 18.3      | 18.3      |
|             |          |       | 3             | 0         | 1   | 24.6                | 24.5      | 24.3      | 1   | 23.0                | 22.7      | 22.6      | 1   | 18.4                    | 18.4      | 18.5      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 3             | 1         | 1   | 24.6                | 24.5      | 24.3      | 1   | 23.0                | 22.8      | 22.6      | 1   | 18.4                    | 18.4      | 18.4      | 0   | 18.3                    | 18.3      | 18.2      |
|             |          |       | 3             | 3         | 1   | 24.6                | 24.5      | 24.3      | 1   | 23.0                | 22.8      | 22.5      | 1   | 18.4                    | 18.4      | 18.4      | 0   | 18.3                    | 18.3      | 18.1      |
|             |          |       | 6             | 0         | 2   | 23.6                | 23.2      | 23.3      | 2   | 22.0                | 21.7      | 21.4      | 2   | 18.3                    | 18.4      | 18.4      | 0   | 18.3                    | 18.2      | 18.2      |
|             |          |       |               |           |     |                     |           |           |     |                     |           |           |     |                         |           |           |     |                         |           |           |

**LTE Band 27 Measured Results**

SAR for LTE Band 27 (Frequency range: 814 – 824 MHz) is covered by LTE Band 26 (Frequency range: 814 – 849 MHz) due to overlapping frequency range, same or lower maximum tune-up limit and same channel bandwidth.

**LTE Band 30 Measured Results**

| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |  | MPR | Max Power Antenna D |  | MPR | Reduced Power Antenna C |  | MPR | Reduced Power Antenna D |  |
|-------------|----------|-------|---------------|-----------|-----|---------------------|--|-----|---------------------|--|-----|-------------------------|--|-----|-------------------------|--|
|             |          |       |               |           |     | 2310 MHz            |  |     | 2310 MHz            |  |     | 2310 MHz                |  |     | 2310 MHz                |  |
| LTE Band 30 | 10       | QPSK  | 1             | 0         | 0   | 22.5                |  | 0   | 22.0                |  | 0   | 13.5                    |  | 0   | 12.7                    |  |
|             |          |       | 1             | 24        | 0   | 22.3                |  | 0   | 21.8                |  | 0   | 13.5                    |  | 0   | 12.8                    |  |
|             |          |       | 1             | 49        | 0   | 22.4                |  | 0   | 21.9                |  | 0   | 13.4                    |  | 0   | 12.6                    |  |
|             |          |       | 25            | 0         | 1   | 21.5                |  | 1   | 21.0                |  | 0   | 13.4                    |  | 0   | 12.6                    |  |
|             |          |       | 25            | 12        | 1   | 21.4                |  | 1   | 20.9                |  | 0   | 13.5                    |  | 0   | 12.7                    |  |
|             |          |       | 25            | 24        | 1   | 21.3                |  | 1   | 20.8                |  | 0   | 13.4                    |  | 0   | 12.7                    |  |
|             |          |       | 50            | 0         | 1   | 21.5                |  | 1   | 20.9                |  | 0   | 13.5                    |  | 0   | 12.8                    |  |
|             |          |       | 1             | 0         | 1   | 21.5                |  | 1   | 21.0                |  | 0   | 13.5                    |  | 0   | 12.7                    |  |
|             |          | 16QAM | 1             | 24        | 1   | 21.3                |  | 1   | 20.8                |  | 0   | 13.4                    |  | 0   | 12.7                    |  |
|             |          |       | 1             | 49        | 1   | 21.4                |  | 1   | 20.9                |  | 0   | 13.4                    |  | 0   | 12.8                    |  |
|             |          |       | 25            | 0         | 2   | 20.5                |  | 2   | 20.0                |  | 0   | 13.4                    |  | 0   | 12.8                    |  |
|             |          |       | 25            | 12        | 2   | 20.5                |  | 2   | 20.0                |  | 0   | 13.4                    |  | 0   | 12.7                    |  |
|             |          |       | 25            | 24        | 2   | 20.4                |  | 2   | 19.9                |  | 0   | 13.4                    |  | 0   | 12.6                    |  |
|             |          |       | 50            | 0         | 2   | 20.5                |  | 2   | 20.0                |  | 0   | 13.5                    |  | 0   | 12.7                    |  |
|             |          |       |               |           |     |                     |  |     |                     |  |     |                         |  |     |                         |  |
|             |          |       |               |           |     |                     |  |     |                     |  |     |                         |  |     |                         |  |
| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |  | MPR | Max Power Antenna D |  | MPR | Reduced Power Antenna C |  | MPR | Reduced Power Antenna D |  |
|             |          |       |               |           |     | 2310 MHz            |  |     | 2310 MHz            |  |     | 2310 MHz                |  |     | 2310 MHz                |  |
| LTE Band 30 | 5        | QPSK  | 1             | 0         | 0   | 22.5                |  | 0   | 22.0                |  | 0   | 13.5                    |  | 0   | 12.8                    |  |
|             |          |       | 1             | 12        | 0   | 22.5                |  | 0   | 21.9                |  | 0   | 13.5                    |  | 0   | 12.7                    |  |
|             |          |       | 1             | 24        | 0   | 22.4                |  | 0   | 21.9                |  | 0   | 13.5                    |  | 0   | 12.7                    |  |
|             |          |       | 12            | 0         | 1   | 21.5                |  | 1   | 20.9                |  | 0   | 13.3                    |  | 0   | 12.8                    |  |
|             |          |       | 12            | 7         | 1   | 21.5                |  | 1   | 20.8                |  | 0   | 13.3                    |  | 0   | 12.7                    |  |
|             |          |       | 12            | 13        | 1   | 21.5                |  | 1   | 20.9                |  | 0   | 13.4                    |  | 0   | 12.6                    |  |
|             |          |       | 25            | 0         | 1   | 21.4                |  | 1   | 20.9                |  | 0   | 13.3                    |  | 0   | 12.7                    |  |
|             |          |       | 1             | 0         | 1   | 22.1                |  | 1   | 21.1                |  | 0   | 13.5                    |  | 0   | 12.8                    |  |
|             |          | 16QAM | 1             | 12        | 1   | 22.0                |  | 1   | 21.0                |  | 0   | 13.4                    |  | 0   | 12.6                    |  |
|             |          |       | 1             | 24        | 1   | 21.9                |  | 1   | 21.0                |  | 0   | 13.3                    |  | 0   | 12.6                    |  |
|             |          |       | 12            | 0         | 2   | 20.6                |  | 2   | 20.0                |  | 0   | 13.5                    |  | 0   | 12.7                    |  |
|             |          |       | 12            | 7         | 2   | 20.6                |  | 2   | 20.0                |  | 0   | 13.5                    |  | 0   | 12.6                    |  |
|             |          |       | 12            | 13        | 2   | 20.6                |  | 2   | 20.0                |  | 0   | 13.4                    |  | 0   | 12.8                    |  |
|             |          |       | 25            | 0         | 2   | 20.5                |  | 2   | 19.9                |  | 0   | 13.5                    |  | 0   | 12.8                    |  |
|             |          |       |               |           |     |                     |  |     |                     |  |     |                         |  |     |                         |  |
|             |          |       |               |           |     |                     |  |     |                     |  |     |                         |  |     |                         |  |

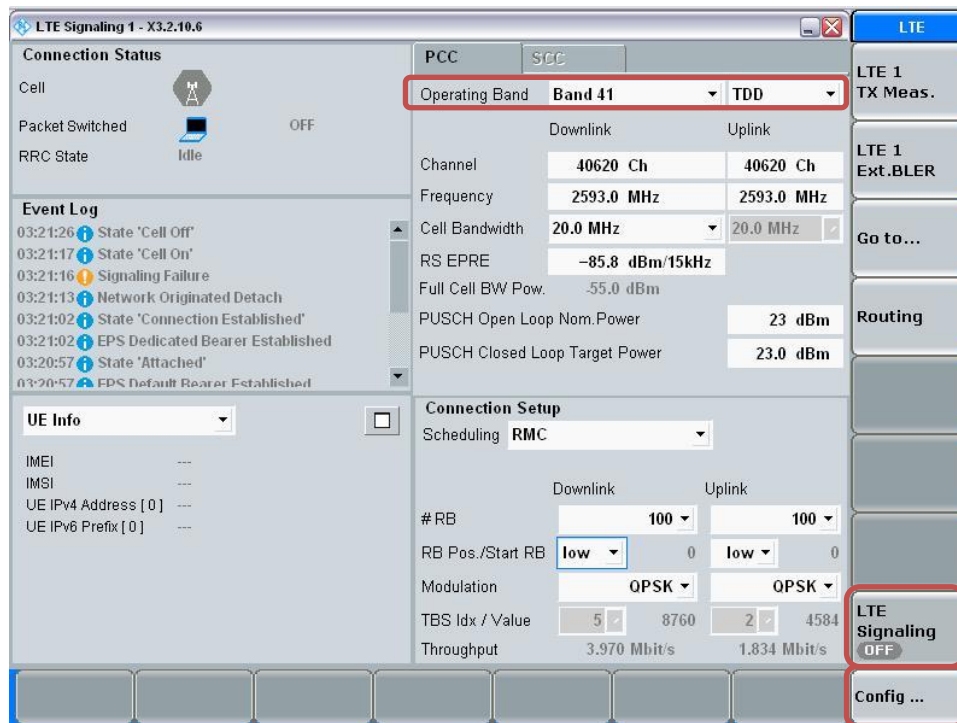
**Note(s):**

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

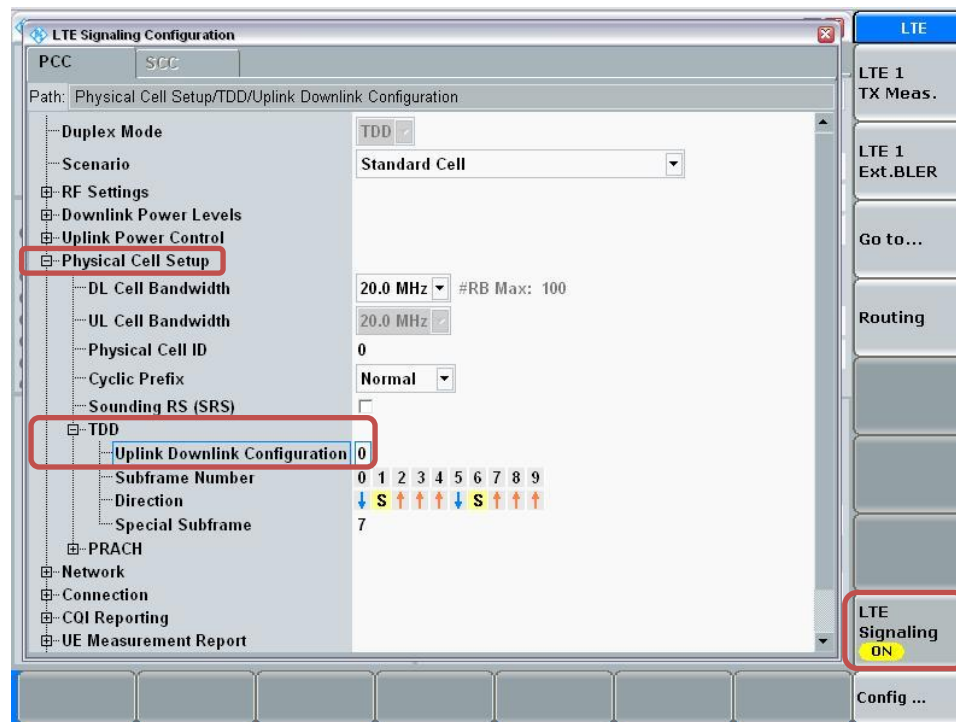
**LTE Band 41 Average Power (dBm) Measured Results****Procedure used to establish SAR test signal for LTE TDD Band 41**

Set to CMW-500 with following parameters:

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



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



**Connect to EUT**

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

The screenshot displays the 'LTE Signaling 1 - X3.2.10.6' window. The 'Connection Status' section on the left shows the cell is 'Attached' (indicated by a green signal icon and a red box around the word 'Attached'). Below this, the 'Event Log' lists several events, including 'State 'Attached'', 'EPS Default Bearer Established', 'RRC Connection Established', 'State 'Cell On'', 'State 'Cell Off'', 'State 'Cell On'', 'Signaling Failure', and 'Network Originated Detach'. The 'UE Info' section shows details for IMEI (001027009999998), IMSI (001010123456789), UE IPv4 Address (192.168.48.129), and UE IPv6 Prefix (fc01:abab:cdc:efe0::). The 'Connection Setup' section on the right shows various parameters for PCC and SCC, including Operating Band (Band 41), Frequency (2593.0 MHz), Cell Bandwidth (20.0 MHz), RS EPRE (-85.8 dBm/15kHz), Full Cell BW Pow. (-55.0 dBm), PUSCH Open Loop Nom. Power (23 dBm), and PUSCH Closed Loop Target Power (23.0 dBm). The 'LTE Signaling' button on the right is highlighted with a red box and shows 'ON'. At the bottom, the 'Connect' button is also highlighted with a red box.

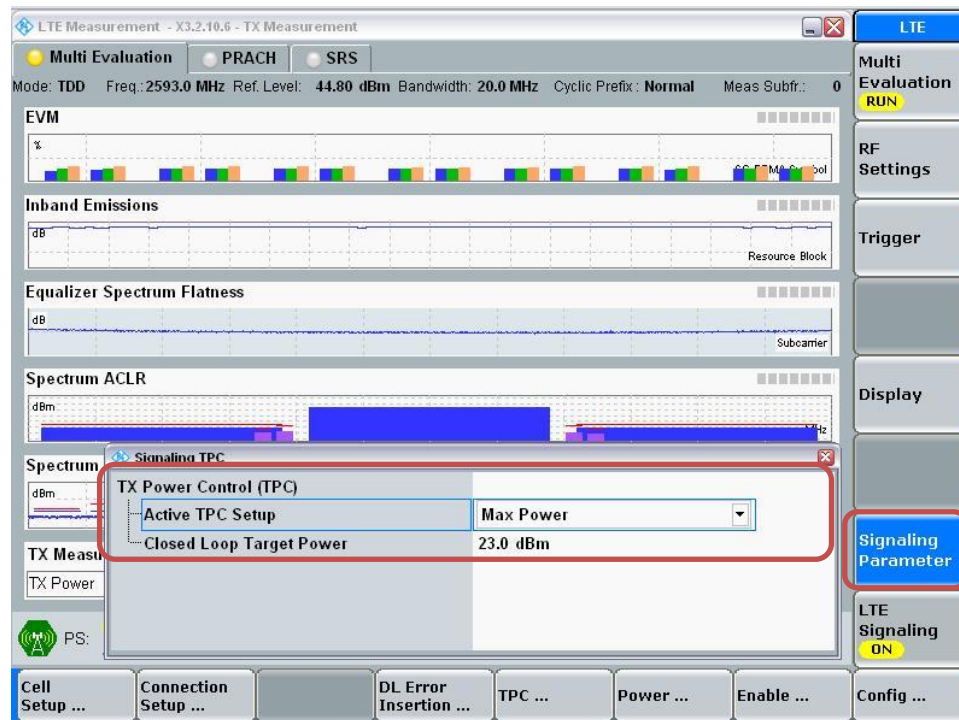
**Max Power Setting**

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

The screenshot displays the 'LTE Signaling 1 - X3.2.10.6' application window. The interface is divided into several sections:

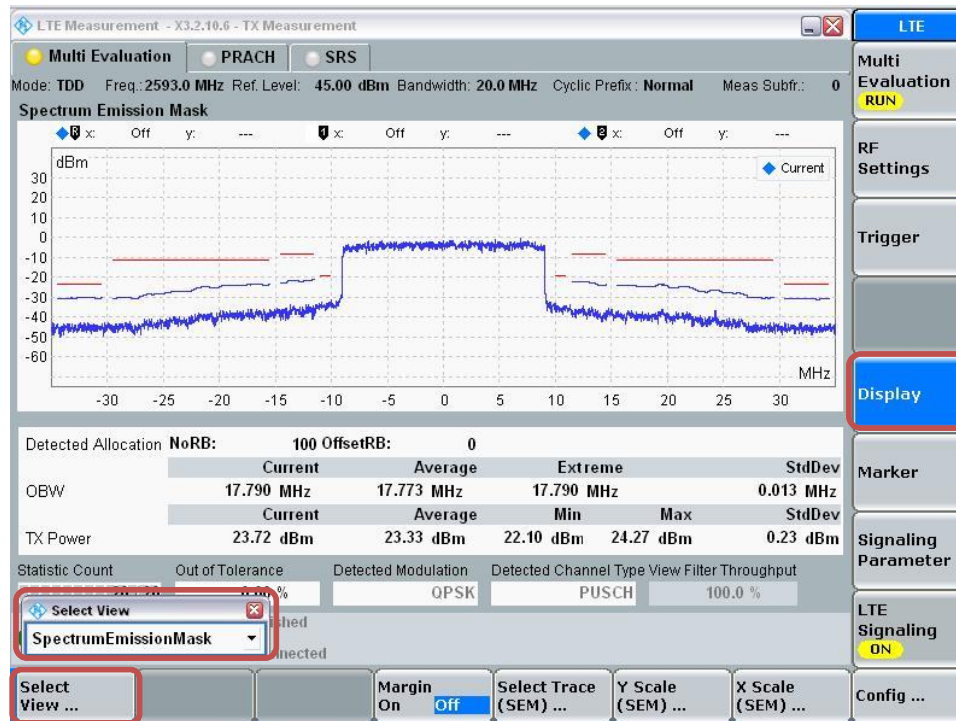
- Connection Status:** Shows 'Cell' with a signal icon, 'Packet Switched' with a laptop icon, and 'RRC State' as 'Connected'.
- Event Log:** A list of system events with timestamps, such as '03:33:07 State 'Connection Established'' and '03:31:02 State 'Cell On''.
- UE Info:** A dropdown menu for selecting a UE, currently showing '001027009999998'.
- Connection Setup:** A section for configuring the connection, including 'Scheduling RMC', '#RB' (100), 'RB Pos./Start RB' (low), 'Modulation' (QPSK), and 'Throughput' (3.970 Mbit/s Downlink, 1.834 Mbit/s Uplink).
- Right Panel:** A vertical stack of buttons including 'LTE 1 TX Meas.' (highlighted with a red box), 'LTE 1 Ext.BLER', 'Go to...', 'Routing', and 'LTE Signaling ON' (highlighted with a red box).
- Bottom Bar:** A row of buttons including 'Detach', 'Disconnect', 'Send SMS', 'Handover ...', and 'Config ...'.

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



**View TX Power**

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



**LTE Band 41 Measured Results**

| Band        | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MPR | Max Power Antenna C |            |          |            |          | MPR | Max Power Antenna D |            |          |            |          | MPR | Reduced Power Antenna C |            |          |            |          | MPR | Reduced Power Antenna D |            |          |            |          |
|-------------|-------------|-------|------------------|--------------|-----|---------------------|------------|----------|------------|----------|-----|---------------------|------------|----------|------------|----------|-----|-------------------------|------------|----------|------------|----------|-----|-------------------------|------------|----------|------------|----------|
|             |             |       |                  |              |     | 2506 MHz            | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |     | 2506 MHz            | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |     | 2506 MHz                | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |     | 2506 MHz                | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |
|             |             |       |                  |              |     |                     |            |          |            |          |     |                     |            |          |            |          |     |                         |            |          |            |          |     |                         |            |          |            |          |
| LTE Band 41 | 20          | QPSK  | 1                | 0            | 0   | 23.0                | 23.0       | 23.0     | 22.0       | 23.0     | 0   | 20.6                | 20.6       | 21.0     | 21.1       | 20.7     | 0   | 14.1                    | 14.1       | 14.1     | 14.1       | 14.1     | 0   | 14.5                    | 14.5       | 14.5     | 14.5       | 14.5     |
|             |             |       | 1                | 49           | 0   | 23.0                | 22.8       | 22.8     | 22.3       | 22.2     | 0   | 20.6                | 20.5       | 20.6     | 20.7       | 20.5     | 0   | 14.1                    | 14.1       | 14.2     | 14.1       | 14.1     | 0   | 14.5                    | 14.5       | 14.5     | 14.5       | 14.5     |
|             |             |       | 1                | 99           | 0   | 22.9                | 22.8       | 22.8     | 22.9       | 21.9     | 0   | 20.6                | 20.6       | 20.3     | 20.5       | 20.3     | 0   | 14.1                    | 14.1       | 14.1     | 14.1       | 14.1     | 0   | 14.4                    | 14.3       | 14.3     | 14.4       | 14.3     |
|             |             |       | 50               | 0            | 1   | 22.0                | 22.0       | 22.0     | 21.2       | 21.7     | 1   | 19.6                | 19.6       | 19.9     | 19.9       | 19.5     | 0   | 14.1                    | 14.1       | 14.1     | 14.1       | 14.1     | 0   | 14.5                    | 14.5       | 14.3     | 14.4       | 14.4     |
|             |             |       | 50               | 24           | 1   | 22.0                | 22.0       | 22.0     | 21.4       | 21.4     | 1   | 19.6                | 19.5       | 19.6     | 19.8       | 19.5     | 0   | 14.2                    | 14.1       | 14.1     | 14.2       | 14.2     | 0   | 14.5                    | 14.5       | 14.5     | 14.5       | 14.5     |
|             |             |       | 50               | 49           | 1   | 21.9                | 21.9       | 21.8     | 21.7       | 21.1     | 1   | 19.4                | 19.5       | 19.5     | 19.6       | 19.3     | 0   | 14.1                    | 14.1       | 14.1     | 14.1       | 14.1     | 0   | 14.3                    | 14.3       | 14.4     | 14.5       | 14.3     |
|             |             | 16QAM | 100              | 0            | 1   | 22.0                | 21.9       | 22.0     | 21.4       | 21.4     | 1   | 19.4                | 19.5       | 19.6     | 19.8       | 19.5     | 0   | 14.1                    | 14.2       | 14.1     | 14.1       | 14.1     | 0   | 14.5                    | 14.5       | 14.5     | 14.5       | 14.5     |
|             |             |       | 1                | 0            | 1   | 22.0                | 22.0       | 22.0     | 21.0       | 22.0     | 1   | 19.7                | 19.4       | 20.0     | 20.0       | 19.6     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.5                    | 14.4       | 14.4     | 14.5       | 14.3     |
|             |             |       | 1                | 49           | 1   | 22.0                | 21.8       | 21.8     | 21.3       | 21.3     | 1   | 19.7                | 19.4       | 20.0     | 20.0       | 19.6     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.4                    | 14.3       | 14.4     | 14.5       | 14.4     |
|             |             |       | 1                | 99           | 1   | 22.0                | 21.8       | 22.0     | 22.0       | 21.0     | 1   | 19.7                | 19.4       | 20.0     | 20.0       | 19.6     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.4       | 14.3     | 14.4       | 14.3     |
|             |             |       | 50               | 0            | 2   | 21.0                | 20.9       | 20.9     | 20.2       | 20.7     | 2   | 18.6                | 18.6       | 18.8     | 18.9       | 18.4     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.5                    | 14.5       | 14.3     | 14.4       | 14.4     |
|             |             |       | 50               | 24           | 2   | 21.0                | 20.9       | 20.9     | 20.4       | 20.4     | 2   | 18.6                | 18.6       | 18.8     | 18.9       | 18.4     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.5                    | 14.4       | 14.3     | 14.3       | 14.4     |
|             |             |       | 50               | 49           | 2   | 20.9                | 20.8       | 20.9     | 20.7       | 20.1     | 2   | 18.6                | 18.6       | 18.8     | 18.9       | 18.4     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.3       | 14.4     | 14.5       | 14.4     |
|             |             |       | 100              | 0            | 2   | 21.0                | 20.9       | 20.9     | 20.4       | 20.4     | 2   | 18.5                | 18.5       | 18.6     | 18.8       | 18.4     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.4                    | 14.5       | 14.5     | 14.3       | 14.3     |
| Band        | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MPR | Max Power Antenna C |            |          |            |          | MPR | Max Power Antenna D |            |          |            |          | MPR | Reduced Power Antenna C |            |          |            |          | MPR | Reduced Power Antenna D |            |          |            |          |
|             |             |       |                  |              |     | 2506 MHz            | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |     | 2506 MHz            | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |     | 2506 MHz                | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |     | 2506 MHz                | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |
| LTE Band 41 | 15          | QPSK  | 1                | 0            | 0   | 23.0                | 23.0       | 22.9     | 22.1       | 22.9     | 0   | 20.6                | 20.6       | 21.0     | 21.1       | 20.7     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.5                    | 14.4       | 14.5     | 14.5       | 14.5     |
|             |             |       | 1                | 36           | 0   | 22.8                | 22.8       | 22.8     | 22.4       | 22.3     | 0   | 20.6                | 20.5       | 20.6     | 20.7       | 20.5     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.4       | 14.3     | 14.3       | 14.5     |
|             |             |       | 1                | 74           | 0   | 22.8                | 22.9       | 23.0     | 22.8       | 22.0     | 0   | 20.6                | 20.6       | 20.3     | 20.5       | 20.3     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.4       | 14.4     | 14.5       | 14.3     |
|             |             |       | 36               | 0            | 1   | 22.0                | 21.9       | 21.9     | 21.2       | 21.6     | 1   | 19.6                | 19.6       | 19.9     | 19.9       | 19.5     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.4                    | 14.3       | 14.4     | 14.4       | 14.5     |
|             |             |       | 36               | 18           | 1   | 21.9                | 21.8       | 21.9     | 21.4       | 21.4     | 1   | 19.6                | 19.5       | 19.6     | 19.8       | 19.5     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.4       | 14.5     | 14.3       | 14.4     |
|             |             |       | 36               | 37           | 1   | 21.8                | 21.9       | 22.0     | 21.6       | 21.1     | 1   | 19.4                | 19.5       | 19.5     | 19.6       | 19.3     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.4       | 14.4     | 14.3       | 14.3     |
|             |             | 16QAM | 75               | 0            | 1   | 21.9                | 21.8       | 22.0     | 21.4       | 21.3     | 1   | 19.4                | 19.5       | 19.6     | 19.8       | 19.5     | 0   | 14.2                    | 14.2       | 14.1     | 14.2       | 14.1     | 0   | 14.3                    | 14.4       | 14.5     | 14.3       | 14.3     |
|             |             |       | 1                | 0            | 1   | 22.0                | 21.9       | 22.0     | 21.3       | 21.8     | 1   | 19.7                | 19.4       | 20.0     | 20.0       | 19.6     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.1     | 0   | 14.4                    | 14.3       | 14.5     | 14.5       | 14.5     |
|             |             |       | 1                | 36           | 1   | 22.0                | 22.0       | 21.8     | 21.5       | 21.2     | 1   | 19.7                | 19.4       | 20.0     | 20.0       | 19.6     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.1     | 0   | 14.4                    | 14.3       | 14.5     | 14.4       | 14.4     |
|             |             |       | 1                | 74           | 1   | 21.8                | 21.9       | 21.8     | 21.9       | 20.9     | 1   | 19.7                | 19.4       | 20.0     | 20.0       | 19.6     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.1     | 0   | 14.3                    | 14.3       | 14.4     | 14.3       | 14.4     |
|             |             |       | 36               | 0            | 2   | 20.9                | 20.9       | 20.8     | 20.2       | 20.7     | 2   | 18.6                | 18.6       | 18.8     | 18.9       | 18.4     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.5       | 14.4     | 14.3       | 14.5     |
|             |             |       | 36               | 18           | 2   | 20.9                | 20.8       | 20.8     | 20.4       | 20.4     | 2   | 18.6                | 18.6       | 18.8     | 18.9       | 18.4     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.5       | 14.5     | 14.3       | 14.4     |
|             |             |       | 36               | 37           | 2   | 20.8                | 21.0       | 21.0     | 20.6       | 20.2     | 2   | 18.6                | 18.6       | 18.8     | 18.9       | 18.4     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.4       | 14.5     | 14.3       | 14.4     |
|             |             |       | 75               | 0            | 2   | 20.8                | 20.8       | 20.8     | 20.4       | 20.4     | 2   | 18.5                | 18.5       | 18.6     | 18.8       | 18.4     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.4       | 14.5     | 14.3       | 14.3     |
| Band        | BW<br>(MHz) | Mode  | RB<br>Allocation | RB<br>offset | MPR | Max Power Antenna C |            |          |            |          | MPR | Max Power Antenna D |            |          |            |          | MPR | Reduced Power Antenna C |            |          |            |          | MPR | Reduced Power Antenna D |            |          |            |          |
|             |             |       |                  |              |     | 2506 MHz            | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |     | 2506 MHz            | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |     | 2506 MHz                | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |     | 2506 MHz                | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |
| LTE Band 41 | 10          | QPSK  | 1                | 0            | 0   | 22.9                | 23.0       | 22.8     | 22.0       | 22.6     | 0   | 20.6                | 20.6       | 21.0     | 21.1       | 20.7     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.4                    | 14.5       | 14.4     | 14.4       | 14.4     |
|             |             |       | 1                | 24           | 0   | 22.9                | 22.9       | 22.9     | 22.4       | 22.3     | 0   | 20.6                | 20.5       | 20.6     | 20.7       | 20.5     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.5       | 14.4     | 14.4       | 14.5     |
|             |             |       | 1                | 49           | 0   | 22.9                | 23.0       | 22.9     | 22.5       | 22.0     | 0   | 20.6                | 20.6       | 20.3     | 20.5       | 20.3     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.5       | 14.4     | 14.5       | 14.4     |
|             |             |       | 25               | 0            | 1   | 21.9                | 22.0       | 21.9     | 21.2       | 21.5     | 1   | 19.6                | 19.6       | 19.9     | 19.9       | 19.5     | 0   | 14.1                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.4                    | 14.4       | 14.5     | 14.4       | 14.5     |
|             |             |       | 25               | 12           | 1   | 22.0                | 22.0       | 21.8     | 21.4       | 21.4     | 1   | 19.6                | 19.5       | 19.6     | 19.8       | 19.5     | 0   | 14.1                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.5       | 14.4     | 14.5       | 14.4     |
|             |             |       | 25               | 24           | 1   | 21.9                | 22.0       | 21.9     | 21.5       | 21.1     | 1   | 19.4                | 19.5       | 19.5     | 19.6       | 19.3     | 0   | 14.1                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.4                    | 14.5       | 14.3     | 14.4       | 14.3     |
|             |             | 16QAM | 50               | 0            | 1   | 22.0                | 22.0       | 21.8     | 21.3       | 21.3     | 1   | 19.4                | 19.5       | 19.6     | 19.8       | 19.5     | 0   | 14.2                    | 14.1       | 14.2     | 14.2       | 14.1     | 0   | 14.4                    | 14.5       | 14.4     | 14.5       | 14.4     |
|             |             |       | 1                | 0            | 1   | 22.0                | 22.0       | 21.8     | 21.2       | 21.5     | 1   | 19.7                | 19.4       | 20.0     | 20.0       | 19.6     | 0   | 14.2                    | 14.2       | 14.2     | 14.1       | 14.2     | 0   | 14.3                    | 14.5       | 14.5     | 14.4       | 14.4     |
|             |             |       | 1                | 24           | 1   | 22.0                | 21.8       | 21.8     | 21.5       | 21.2     | 1   | 19.7                | 19.4       | 20.0     | 20.0       | 19.6     | 0   | 14.2                    | 14.2       | 14.2     | 14.1       | 14.2     | 0   | 14.4                    | 14.3       | 14.4     | 14.4       | 14.5     |
|             |             |       | 1                | 49           | 1   | 22.0                | 21.8       | 21.7     | 21.7       | 20.9     | 1   | 19.7                | 19.4       | 20.0     | 20.0       | 19.6     | 0   | 14.2                    | 14.2       | 14.2     | 14.1       | 14.2     | 0   | 14.4                    | 14.3       | 14.4     | 14.4       | 14.5     |
|             |             |       | 25               | 0            | 2   | 20.9                | 21.0       | 20.8     | 20.1       | 20.5     | 2   | 18.6                | 18.7       | 18.8     | 18.9       | 18.4     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.5       | 14.4     | 14.4       | 14.5     |
|             |             |       | 25               | 12           | 2   | 20.1                | 20.9       | 20.7     | 20.4       | 20.4     | 2   | 18.6                | 18.6       | 18.8     | 18.9       | 18.4     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.5       | 14.4     | 14.5       | 14.4     |
|             |             |       | 25               | 24           | 2   | 20.9                | 20.9       | 20.8     | 20.4       | 20.1     | 2   | 18.6                | 18.6       | 18.8     | 18.9       | 18.4     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.4                    | 14.4       | 14.3     | 14.3       | 14.3     |
|             |             |       | 50               | 0            | 2   | 20.9                | 21.0       | 20.8     | 20.3       | 20.3     | 2   | 18.5                | 18.5       | 18.6     | 18.8       | 18.4     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.1     | 0   | 14.3                    | 14.5       | 14.4     | 14.5       | 14.4     |

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

| Band        | BW (MHz) | Mode  | RB Allocation | RB offset | MPR | Max Power Antenna C |            |          |            |          | MPR | Max Power Antenna D |            |          |            |          | MPR | Reduced Power Antenna C |            |          |            |          | MPR | Reduced Power Antenna D |            |          |            |          |
|-------------|----------|-------|---------------|-----------|-----|---------------------|------------|----------|------------|----------|-----|---------------------|------------|----------|------------|----------|-----|-------------------------|------------|----------|------------|----------|-----|-------------------------|------------|----------|------------|----------|
|             |          |       |               |           |     | 2506 MHz            | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |     | 2506 MHz            | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |     | 2506 MHz                | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |     | 2506 MHz                | 2549.5 MHz | 2593 MHz | 2636.5 MHz | 2680 MHz |
| LTE Band 41 | 5        | QPSK  | 1             | 0         | 0   | 22.8                | 22.8       | 22.9     | 22.2       | 22.4     | 0   | 20.6                | 20.6       | 21.0     | 21.1       | 20.7     | 0   | 14.2                    | 14.1       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.3       | 14.4     | 14.4       | 14.4     |
|             |          |       | 1             | 12        | 0   | 22.9                | 22.5       | 22.9     | 22.3       | 22.3     | 0   | 20.6                | 20.5       | 20.6     | 20.7       | 20.5     | 0   | 14.2                    | 14.1       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.3       | 14.3     | 14.3       | 14.3     |
|             |          |       | 1             | 24        | 0   | 22.9                | 22.3       | 22.9     | 22.4       | 22.1     | 0   | 20.6                | 20.6       | 20.3     | 20.5       | 20.3     | 0   | 14.2                    | 14.1       | 14.2     | 14.2       | 14.2     | 0   | 14.4                    | 14.3       | 14.3     | 14.3       | 14.4     |
|             |          |       | 12            | 0         | 1   | 22.0                | 22.0       | 22.0     | 21.3       | 21.4     | 1   | 19.6                | 19.6       | 19.9     | 19.9       | 19.5     | 0   | 14.2                    | 14.2       | 14.1     | 14.2       | 14.2     | 0   | 14.5                    | 14.4       | 14.4     | 14.3       | 14.5     |
|             |          |       | 12            | 7         | 1   | 22.0                | 22.0       | 21.9     | 21.3       | 21.4     | 1   | 19.6                | 19.5       | 19.6     | 19.8       | 19.5     | 0   | 14.2                    | 14.2       | 14.1     | 14.2       | 14.2     | 0   | 14.5                    | 14.3       | 14.3     | 14.4       | 14.4     |
|             |          |       | 12            | 13        | 1   | 22.0                | 22.0       | 21.9     | 21.4       | 21.3     | 1   | 19.4                | 19.5       | 19.5     | 19.6       | 19.3     | 0   | 14.2                    | 14.2       | 14.1     | 14.2       | 14.2     | 0   | 14.4                    | 14.3       | 14.3     | 14.4       | 14.4     |
|             |          | 16QAM | 25            | 0         | 1   | 22.0                | 22.0       | 21.9     | 21.4       | 21.3     | 1   | 19.4                | 19.5       | 19.6     | 19.8       | 19.5     | 0   | 14.1                    | 14.1       | 14.2     | 14.1       | 14.1     | 0   | 14.5                    | 14.3       | 14.3     | 14.4       | 14.4     |
|             |          |       | 1             | 0         | 1   | 22.0                | 22.0       | 22.0     | 21.2       | 21.5     | 1   | 19.7                | 19.4       | 20.0     | 20.0       | 19.6     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.4                    | 14.4       | 14.5     | 14.5       | 14.5     |
|             |          |       | 1             | 12        | 1   | 22.0                | 22.0       | 22.0     | 21.3       | 21.3     | 1   | 19.7                | 19.4       | 20.0     | 20.0       | 19.6     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.3                    | 14.3       | 14.4     | 14.4       | 14.3     |
|             |          |       | 1             | 24        | 1   | 21.9                | 22.0       | 22.0     | 21.5       | 21.2     | 1   | 19.7                | 19.4       | 20.0     | 20.0       | 19.6     | 0   | 14.2                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.4                    | 14.4       | 14.4     | 14.5       | 14.3     |
|             |          |       | 12            | 0         | 2   | 20.9                | 20.8       | 20.9     | 20.2       | 20.4     | 2   | 18.6                | 18.5       | 18.8     | 18.9       | 18.4     | 0   | 14.1                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.4                    | 14.3       | 14.3     | 14.5       | 14.4     |
|             |          |       | 12            | 7         | 2   | 20.9                | 20.8       | 20.9     | 20.3       | 20.3     | 2   | 18.6                | 18.6       | 18.8     | 18.9       | 18.4     | 0   | 14.1                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.5                    | 14.4       | 14.3     | 14.4       | 14.4     |
|             |          |       | 12            | 13        | 2   | 20.8                | 20.8       | 20.8     | 20.4       | 20.2     | 2   | 18.6                | 18.6       | 18.8     | 18.9       | 18.4     | 0   | 14.1                    | 14.2       | 14.2     | 14.2       | 14.2     | 0   | 14.4                    | 14.3       | 14.3     | 14.4       | 14.3     |
|             |          |       | 25            | 0         | 2   | 20.8                | 20.8       | 21.0     | 20.3       | 20.3     | 2   | 18.5                | 18.5       | 18.6     | 18.8       | 18.4     | 0   | 14.2                    | 14.1       | 14.1     | 14.1       | 14.1     | 0   | 14.5                    | 14.3       | 14.4     | 14.4       | 14.3     |

## 9.5. LTE Rel. 11 Carrier Aggregation

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

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

Set to CMW-500 with following parameters:

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

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

**Connection Status**

Cell: Connection Established

Packet Switched: Connected

RRC State: Connected

SCC1 State: MAC Activated

**Event Log**

02:17:19 Redirection Successful

02:17:18 Tracking Area Update Received

02:17:18 RRC Connection Established

02:17:17 RRC Connection Released

02:17:16 Redirection Start

02:17:12 Redirection Successful

**UE Info**

IMEI: 359250065123018

IMSI: 001010000150503

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

UE's Usage Setti...: Voice centric

Default Bearer: IPv4 address: 192.168.48.129fc01:abab:cdcd

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

**PCC** | SCC1 | SCC2 | SCC3

Operating Band: **Band 7** | FDD

Downlink: Channel: **2850 Ch** | Frequency: **2630.0 MHz** | Cell Bandwidth: **20.0 MHz**

Uplink: Channel: **20850 Ch** | Frequency: **2510.0 MHz** | Cell Bandwidth: **20.0 MHz**

RS EPRE: -85.0 dBm/15kHz

Full Cell BW Pow.: -54.2 dBm

PUSCH Open Loop Nom.Power: 23 dBm

PUSCH Closed Loop Target Power: 33.0 dBm

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

**Downlink** | **Uplink**

#RB: **100** | **50**

Start RB: **0** | **0**

Mod / TBSI: **QPSK** | **5** | **QPSK** | **10**

Code Rate / TBS: **0.320** | **8760** | **0.612** | **8760**

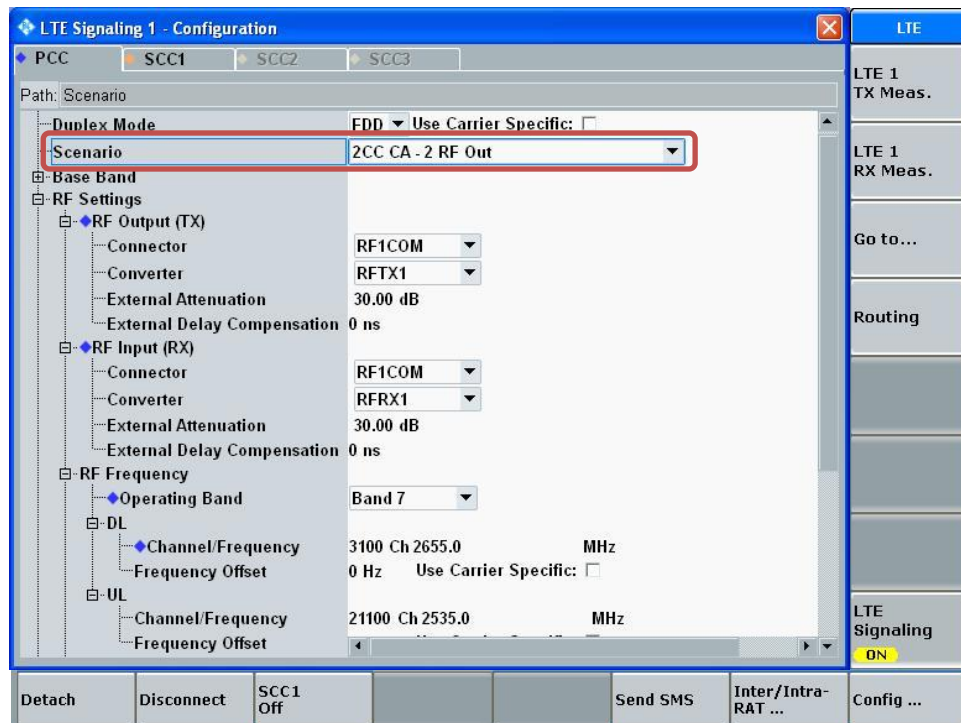
Throughput: **8.760 Mbit/s** | **8.760 Mbit/s**

**LTE Signaling** **ON**

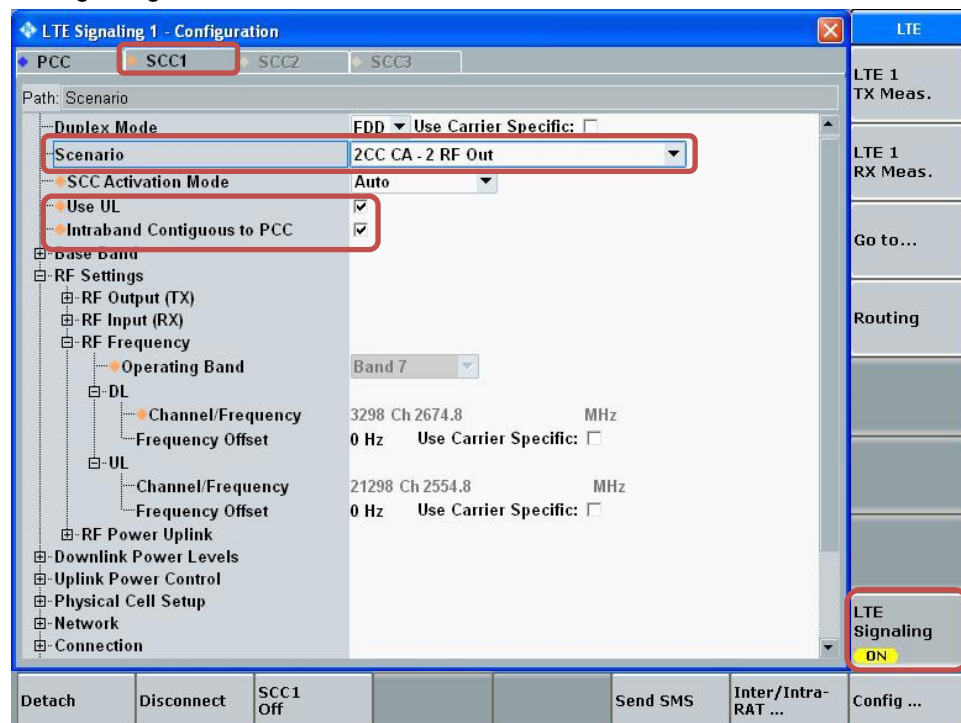
**Config ...**

- Go to "Config...."

- Go to “Scenario”
- Set to “2CC CA – 2 RF Out”



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



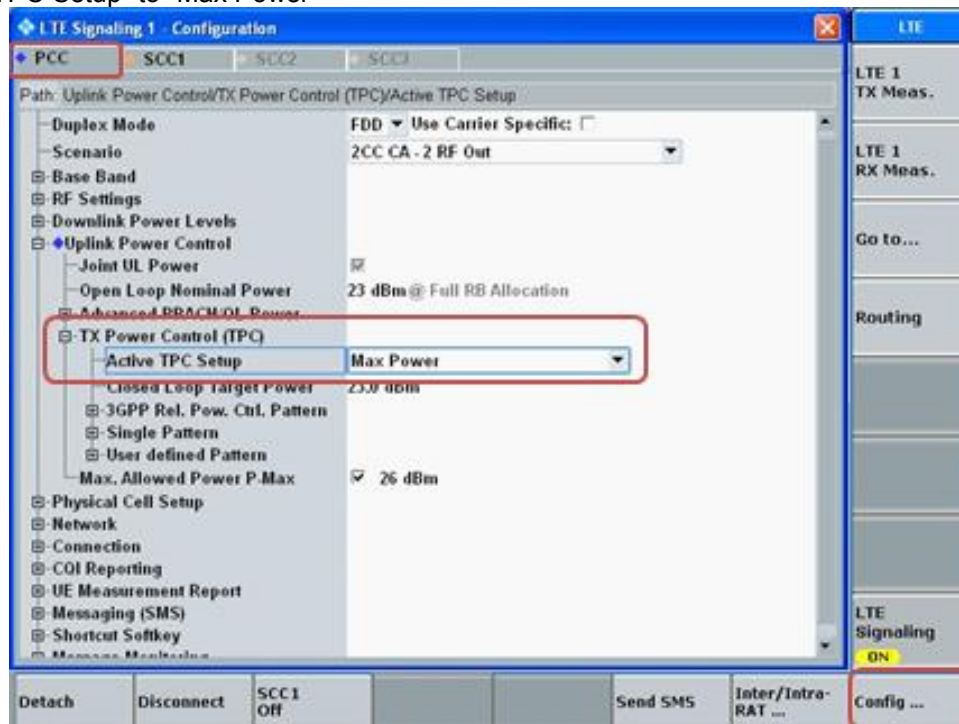
- Select “SCC1” tab
  - Select the testing Cell Bandwidth, Uplink RBs

The screenshot displays the LTE Signaling 1 - V3.5.40 - Base V 3.5.90 interface. The SCC1 tab is selected, showing configuration for the Secondary Cell Group (SCG). The interface is divided into several sections:

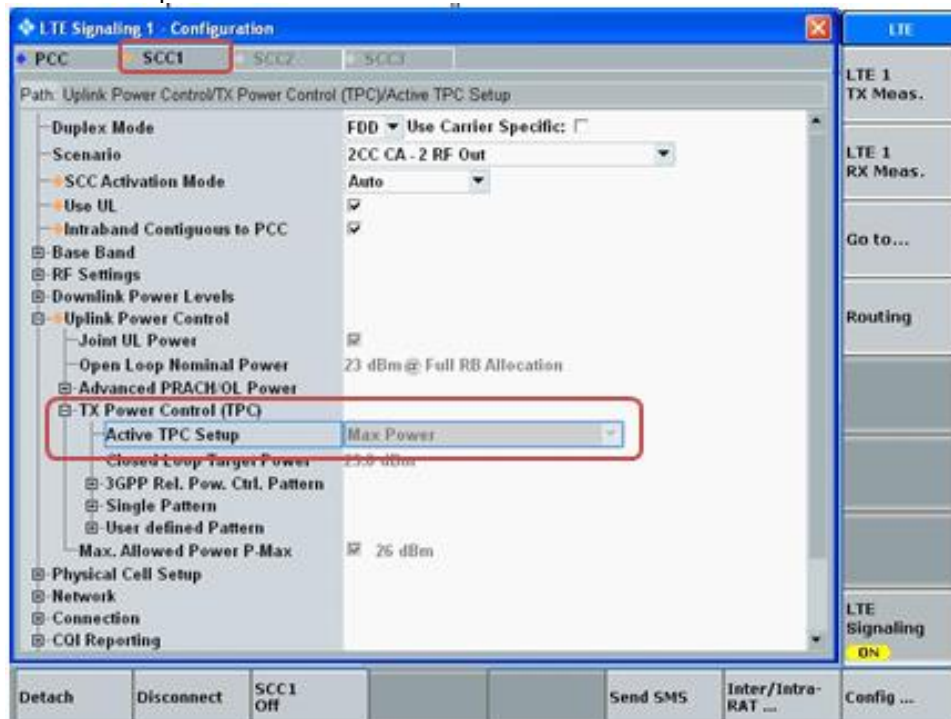
- Connection Status:** Shows the cell status as "Connected" and "MAC Activated".
- Event Log:** Displays a list of events including "Redirection Successful", "Tracking Area Update Received", "RRC Connection Established", "RRC Connection Released", "Redirection Start", and "Redirection Successful".
- UE Info:** Provides details about the User Equipment (UE), including IMEI (359250065123018), IMSI (001010000150503), and voice domain preferences.
- Configuration Parameters:**
  - Operating Band:** Band 7, FDD.
  - Channel:** 3048 Ch (Downlink), 21048 Ch (Uplink).
  - Frequency:** 2649.8 MHz (Downlink), 2529.8 MHz (Uplink).
  - Cell Bandwidth:** 20.0 MHz (Downlink), 20.0 MHz (Uplink).
  - RS EPRE:** -85.8 dBm/15kHz.
  - Full Cell BW Pow.:** -55.0 dBm.
  - PUSCH Open Loop Nom. Power:** 23 dBm.
  - PUSCH Closed Loop Target Power:** 33.0 dBm.
  - Intraband Contiguous to PCC:** Checked.
  - PCC <-> SCC1:** Swap button.
  - Sched. User def. Channels:** Multicenter UL.
  - #RB:** 100 (Downlink), 100 (Uplink).
  - Start RB:** 0 (Downlink), 0 (Uplink).
  - Mod / TBSI:** QPSK (Downlink), 5 (Uplink).
  - Code Rate / TBS:** 0.320 8760 (Downlink), 0.613 17568 (Uplink).
  - Throughput:** 8.760 Mbit/s (Downlink), 17.568 Mbit/s (Uplink).
- Buttons:** Detach, Disconnect, SCC1 Off, Send SMS, Inter/Intra-RAT, Config ...

**Max Power Setting**

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

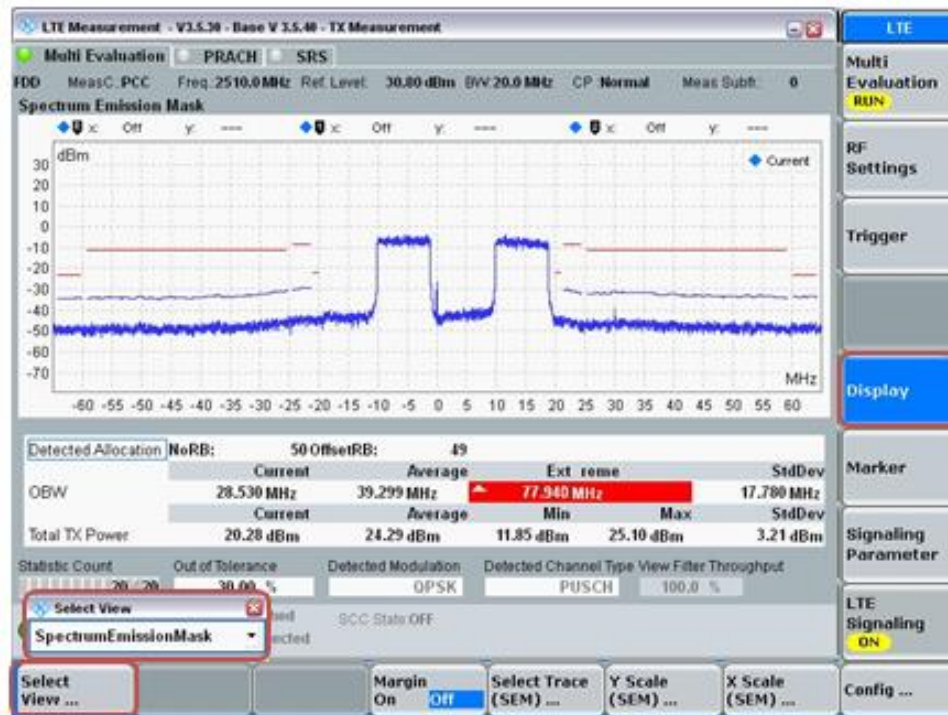


- Select SCC1 tab
- Verify that “Active TPC Setup” is set to “Max Power”



**View TX Power**

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



LTE Carrier Aggregation: Device supports LTE Advanced Rel-11, UE Category 10 Carrier Aggregation (CA) on downlink for Inter and Intra band. Uplink CA is supported for Intra band only.

## 2DL & 3DL CA Inter-Band

| E-UTRA CA configuration (BCS) | E-UTRA Band | Bandwidth        |       |       |        |        |        |
|-------------------------------|-------------|------------------|-------|-------|--------|--------|--------|
|                               |             | 1.4 MHz          | 3 MHz | 5 MHz | 10 MHz | 15 MHz | 20 MHz |
| CA_2A_4A (0) (1) (2)          | 2           | Yes              | Yes   | Yes   | Yes    | Yes    | Yes    |
|                               | 4           |                  |       | Yes   | Yes    | Yes    | Yes    |
|                               | 2           |                  |       | Yes   | Yes    |        |        |
|                               | 4           |                  |       | Yes   | Yes    |        |        |
|                               | 2           |                  |       | Yes   | Yes    | Yes    | Yes    |
|                               | 4           |                  |       | Yes   | Yes    | Yes    | Yes    |
| CA_2A_5A (0)                  | 2           |                  |       | Yes   | Yes    | Yes    | Yes    |
|                               | 5           |                  |       | Yes   | Yes    |        |        |
| CA_2A_12A (0) (1)             | 2           |                  |       | Yes   | Yes    | Yes    | Yes    |
|                               | 12          |                  |       | Yes   | Yes    |        |        |
|                               | 2           |                  |       | Yes   | Yes    | Yes    | Yes    |
|                               | 12          |                  | Yes   | Yes   | Yes    |        |        |
| CA_2A_12B (0) (1)             | 2           |                  |       | Yes   | Yes    | Yes    | Yes    |
|                               | 12          | See CA_12B (0)   |       |       |        |        |        |
| CA_2A_2A_12A (0)              | 2           | See CA_2A_2A (0) |       |       |        |        |        |
|                               | 12          |                  |       | Yes   | Yes    |        |        |
| CA_2A_13A (0) (1)             | 2           |                  |       | Yes   | Yes    | Yes    | Yes    |
|                               | 13          |                  |       |       | Yes    |        |        |
|                               | 2           |                  |       | Yes   | Yes    |        |        |
|                               | 13          |                  |       |       | Yes    |        |        |
| CA_2A_2A_13A (0)              | 2           | See CA_2A_2A (0) |       |       |        |        |        |
|                               | 13          |                  |       |       | Yes    |        |        |
| CA_2A_17A (0)                 | 2           |                  |       | Yes   | Yes    |        |        |
|                               | 17          |                  |       | Yes   | Yes    |        |        |
| CA_20_29A (0) (1) (2)         | 2           |                  |       | Yes   | Yes    |        |        |
|                               | 29          |                  | Yes   | Yes   | Yes    |        |        |
|                               | 2           |                  |       | Yes   | Yes    |        |        |
|                               | 29          |                  |       | Yes   | Yes    |        |        |
|                               | 2           |                  |       | Yes   | Yes    | Yes    | Yes    |
|                               | 29          |                  |       | Yes   | Yes    |        |        |
| CA_2A_30A (0)                 | 2           |                  |       | Yes   | Yes    | Yes    | Yes    |
|                               | 30          |                  |       | Yes   | Yes    |        |        |
| CA_4A_5A (0) (1)              | 4           |                  |       | Yes   | Yes    |        |        |
|                               | 5           |                  |       | Yes   | Yes    |        |        |
|                               | 4           |                  |       | Yes   | Yes    | Yes    | Yes    |
|                               | 5           |                  |       | Yes   | Yes    |        |        |
| CA_4A_7A (0)                  | 4           |                  |       | Yes   | Yes    |        |        |
|                               | 7           |                  |       | Yes   | Yes    | Yes    | Yes    |
| CA_4A_12A (0) (1) (2) (3) (4) | 4           | Yes              | Yes   | Yes   | Yes    |        |        |
|                               | 12          |                  |       | Yes   | Yes    |        |        |
|                               | 4           | Yes              | Yes   | Yes   | Yes    | Yes    | Yes    |
|                               | 12          |                  |       | Yes   | Yes    |        |        |
|                               | 4           |                  |       | Yes   | Yes    | Yes    | Yes    |
|                               | 12          |                  | Yes   | Yes   | Yes    |        |        |
|                               | 4           |                  |       | Yes   | Yes    |        |        |
|                               | 12          |                  |       | Yes   | Yes    |        |        |
|                               | 4           |                  |       | Yes   | Yes    | Yes    | Yes    |
| CA_4A_4A_12A (0)              | 4           | See CA_4A_4A (0) |       |       |        |        |        |
|                               | 12          |                  |       | Yes   | Yes    |        |        |
| CA_4A_12B (0)                 | 4           |                  |       | Yes   | Yes    | Yes    | Yes    |
|                               | 12          | See CA_12B (0)   |       |       |        |        |        |

|                       |    |                  |     |     |     |     |     |
|-----------------------|----|------------------|-----|-----|-----|-----|-----|
| CA_4A_13A (0) (1)     | 4  |                  |     | Yes | Yes | Yes | Yes |
|                       | 13 |                  |     |     | Yes |     |     |
|                       | 4  |                  |     | Yes | Yes |     |     |
|                       | 13 |                  |     |     | Yes |     |     |
| CA_4A_4A_13A (0)      | 4  | See CA_4A_4A (0) |     |     |     |     |     |
|                       | 13 |                  |     |     | Yes |     |     |
| CA_4A_17A (0)         | 4  |                  |     | Yes | Yes |     |     |
|                       | 17 |                  |     | Yes | Yes |     |     |
| CA_4A_29A (0) (1) (2) | 4  |                  |     | Yes | Yes |     |     |
|                       | 29 |                  | Yes | Yes | Yes |     |     |
|                       | 4  |                  |     | Yes | Yes |     |     |
|                       | 29 |                  |     | Yes | Yes |     |     |
|                       | 4  |                  |     | Yes | Yes | Yes | Yes |
|                       | 29 |                  |     | Yes | Yes |     |     |
| CA_4A_30A (0)         | 4  |                  |     | Yes | Yes | Yes | Yes |
|                       | 30 |                  |     | Yes | Yes |     |     |
| CA_5A_7A (0)          | 5  | Yes              | Yes | Yes | Yes |     |     |
|                       | 7  |                  |     |     | Yes | Yes | Yes |
| CA_5A_30A (0)         | 5  |                  |     | Yes | Yes |     |     |
|                       | 30 |                  |     | Yes | Yes |     |     |
| CA_12A_30A (0)        | 12 |                  |     | Yes | Yes |     |     |
|                       | 30 |                  |     | Yes | Yes |     |     |
| CA_25A_26A (0)        | 25 |                  | Yes | Yes | Yes | Yes | Yes |
|                       | 26 |                  | Yes | Yes | Yes | Yes |     |
| CA_29A_30A (0)        | 29 |                  |     | Yes | Yes |     |     |
|                       | 30 |                  |     | Yes | Yes |     |     |
| CA_2A_4A_12A (0)      | 2  |                  |     | Yes | Yes | Yes | Yes |
|                       | 4  |                  |     | Yes | Yes | Yes | Yes |
|                       | 12 |                  |     | Yes | Yes |     |     |
| CA_2A_4A_13A (0)      | 2  |                  |     | Yes | Yes | Yes | Yes |
|                       | 4  |                  |     | Yes | Yes | Yes | Yes |
|                       | 13 |                  |     |     | Yes |     |     |
| CA_2A_5A_30A (0)      | 2  |                  |     | Yes | Yes | Yes | Yes |
|                       | 5  |                  |     | Yes | Yes |     |     |
|                       | 30 |                  |     | Yes | Yes |     |     |
| CA_2A_12A_30A (0)     | 2  |                  |     | Yes | Yes | Yes | Yes |
|                       | 12 |                  |     | Yes | Yes |     |     |
|                       | 30 |                  |     | Yes | Yes |     |     |
| CA_2A_29A_30A (0)     | 2  |                  |     | Yes | Yes | Yes | Yes |
|                       | 29 |                  |     | Yes | Yes |     |     |
|                       | 30 |                  |     | Yes | Yes |     |     |
| CA_4A_5A_30A (0)      | 4  |                  |     | Yes | Yes | Yes | Yes |
|                       | 5  |                  |     | Yes | Yes |     |     |
|                       | 30 |                  |     | Yes | Yes |     |     |
| CA_4A_12A_30A (0)     | 4  |                  |     | Yes | Yes | Yes | Yes |
|                       | 12 |                  |     | Yes | Yes |     |     |
|                       | 30 |                  |     | Yes | Yes |     |     |
| CA_4A_29A_30A (0)     | 4  |                  |     | Yes | Yes | Yes | Yes |
|                       | 29 |                  |     | Yes | Yes |     |     |
|                       | 30 |                  |     | Yes | Yes |     |     |

## 2DL CA Intra-Band Non-Contiguous

| E-UTRA CA configuration (BCS) | Component carriers in order of increasing carrier frequency |                |               |
|-------------------------------|-------------------------------------------------------------|----------------|---------------|
|                               | Carrier 1                                                   | Carrier 2      | Carrier 3     |
| CA_2A_2A (0)                  | 5, 10, 15, 20                                               | 5, 10, 15, 20  |               |
| CA_4A_4A (0)                  | 5, 10, 15, 20                                               | 5, 10, 15, 20  |               |
| CA_7A_7A (0)                  | 5                                                           | 15             |               |
|                               | 10                                                          | 10, 15         |               |
|                               | 15                                                          | 15, 20         |               |
|                               | 20                                                          | 20             |               |
| CA_25A_25A (0) (1)            | 5, 10                                                       | 5, 10          |               |
|                               | 5, 10, 15, 20                                               | 5, 10, 15, 20  |               |
| CA_41A_41A (0) (1)            | 10, 15, 20                                                  | 10, 15, 20     |               |
|                               | 5, 10, 15, 20                                               | 5, 10, 15, 20  |               |
| CA_41A_41C (0)                | 5, 10, 15, 20                                               | See CA_41C (1) |               |
| CA_41C_41A (0)                | See CA_41C (1)                                              |                | 5, 10, 15, 20 |

## 2DL & 3DL CA Intra-Band Contiguous

| E-UTRA CA configuration (BCS) | Component carriers in order of increasing carrier frequency |               |           |
|-------------------------------|-------------------------------------------------------------|---------------|-----------|
|                               | Allowed channel bandwidths (MHz)                            |               |           |
|                               | Carrier 1                                                   | Carrier 2     | Carrier 3 |
| CA_2C (0)                     | 5                                                           | 20            |           |
|                               | 10                                                          | 15, 20        |           |
|                               | 15                                                          | 10, 15, 20    |           |
|                               | 20                                                          | 5, 10, 15, 20 |           |
| CA_7B (0)                     | 15                                                          | 5             |           |
| CA_7C (0) (1)                 | 15                                                          | 15            |           |
|                               | 20                                                          | 20            |           |
|                               | 10                                                          | 20            |           |
|                               | 15                                                          | 15, 20        |           |
|                               | 20                                                          | 10, 15, 20    |           |
| CA_12B (0)                    | 5                                                           | 5, 10         |           |
| CA_41C (0) (1) (2) (3)        | 10                                                          | 20            |           |
|                               | 15                                                          | 15, 20        |           |
|                               | 20                                                          | 10, 15, 20    |           |
|                               | 5, 10                                                       | 20            |           |
|                               | 15                                                          | 15, 20        |           |
|                               | 20                                                          | 5, 10, 15, 20 |           |
|                               | 10                                                          | 15, 20        |           |
|                               | 15                                                          | 10, 15, 20    |           |
|                               | 20                                                          | 10, 15, 20    |           |
|                               | 10                                                          | 20            |           |
|                               | 20                                                          | 20            |           |
| CA_41D (0)                    | 10                                                          | 20            | 15        |
|                               | 10                                                          | 15, 20        | 20        |
|                               | 15                                                          | 20            | 10, 15    |
|                               | 15                                                          | 10, 15, 20    | 20        |
|                               | 20                                                          | 15, 20        | 10        |
|                               | 20                                                          | 10, 15, 20    | 15, 20    |

## 2UL CA Intra-Band Contiguous

| E-UTRA CA configuration (BCS) | Component carriers in order of increasing carrier frequency |               |           |
|-------------------------------|-------------------------------------------------------------|---------------|-----------|
|                               | Allowed channel bandwidths (MHz)                            |               |           |
|                               | Carrier 1                                                   | Carrier 2     | Carrier 3 |
| CA_7C (0) (1)                 | 15                                                          | 15            |           |
|                               | 20                                                          | 20            |           |
|                               | 10                                                          | 20            |           |
|                               | 15                                                          | 15, 20        |           |
|                               | 20                                                          | 10, 15, 20    |           |
| CA_41C (0) (1)                | 10                                                          | 20            |           |
|                               | 15                                                          | 15, 20        |           |
|                               | 20                                                          | 10, 15, 20    |           |
|                               | 5, 10                                                       | 20            |           |
|                               | 15                                                          | 15, 20        |           |
|                               | 20                                                          | 5, 10, 15, 20 |           |

**Carrier Aggregation Power Measurements:**

DL CA power measurements for max RF output power mode were performed on the primary cellular antenna (Antenna C) with QPSK modulation, since it has the highest maximum RF output power.

CA power measurements were made for all supported PCC bandwidths on the channel/RB combination resulting in the highest output power. SCCs were set to the highest BW possible for the combination. For Band 2, CA power measurements were made for all 2DL and 3DL CA combinations. For the remaining PCC bands, UL power measurements were made for only one 2DL and one 3DL CA combination.

The standalone power measurement is the power for the PCC in the non-CA mode (i.e. single carrier power) measured with an average power meter. In all cases the DL CA power is less than or equal to the standalone power.

**2DL & 3DL CA Inter-Band**

| DL (Antenna C) |      |      |     |           |     |           |     |           | UL (Antenna C) |    |        |           |     |            |          |       |
|----------------|------|------|-----|-----------|-----|-----------|-----|-----------|----------------|----|--------|-----------|-----|------------|----------|-------|
| PCC            | SCC  | TCC  | PCC |           | SCC |           | TCC |           | PCC            |    |        |           |     |            |          |       |
| Band           | Band | Band | BW  | Frequency | BW  | Frequency | BW  | Frequency | Modulation     | RB | Offset | Frequency | MPR | Standalone | CA Power | Delta |
| 2              | 4    |      | 14  | 1960      | 20  | 2132.5    |     |           | QPSK           | 1  | 3      | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 4    |      | 3   | 1960      | 20  | 2132.5    |     |           | QPSK           | 1  | 8      | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 4    |      | 5   | 1960      | 20  | 2132.5    |     |           | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 4    |      | 10  | 1960      | 20  | 2132.5    |     |           | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 4    |      | 15  | 1960      | 20  | 2132.5    |     |           | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 4    |      | 20  | 1960      | 20  | 2132.5    |     |           | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 5    |      | 5   | 1960      | 10  | 881.5     |     |           | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 5    |      | 10  | 1960      | 10  | 881.5     |     |           | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 5    |      | 15  | 1960      | 10  | 881.5     |     |           | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 5    |      | 20  | 1960      | 10  | 881.5     |     |           | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 12   |      | 5   | 1960      | 10  | 737.5     |     |           | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 12   |      | 10  | 1960      | 10  | 737.5     |     |           | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 12   |      | 15  | 1960      | 10  | 737.5     |     |           | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 12   |      | 20  | 1960      | 10  | 737.5     |     |           | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 13   |      | 5   | 1960      | 10  | 751       |     |           | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 13   |      | 10  | 1960      | 10  | 751       |     |           | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 13   |      | 15  | 1960      | 10  | 751       |     |           | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 13   |      | 20  | 1960      | 10  | 751       |     |           | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 17   |      | 5   | 1960      | 10  | 740       |     |           | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 17   |      | 10  | 1960      | 10  | 740       |     |           | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 29   |      | 5   | 1960      | 10  | 722.5     |     |           | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 29   |      | 10  | 1960      | 10  | 722.5     |     |           | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 29   |      | 15  | 1960      | 10  | 722.5     |     |           | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 29   |      | 20  | 1960      | 10  | 722.5     |     |           | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 30   |      | 5   | 1960      | 10  | 2355      |     |           | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 30   |      | 10  | 1960      | 10  | 2355      |     |           | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 30   |      | 15  | 1960      | 10  | 2355      |     |           | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 30   |      | 20  | 1960      | 10  | 2355      |     |           | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 25.0     | 0     |

| DL (Antenna C) |      |      |     |           |     |           |     |           | UL (Antenna C) |    |        |           |     |            |          |       |
|----------------|------|------|-----|-----------|-----|-----------|-----|-----------|----------------|----|--------|-----------|-----|------------|----------|-------|
| PCC            | SCC  | TCC  | PCC |           | SCC |           | TCC |           | PCC            |    |        |           |     |            |          |       |
| Band           | Band | Band | BW  | Frequency | BW  | Frequency | BW  | Frequency | Modulation     | RB | Offset | Frequency | MPR | Standalone | CA Power | Delta |
| 4              | 2    |      | 5   | 2132.5    | 20  | 1960      |     |           | QPSK           | 1  | 12     | 1732.5    | 0   | 25.0       | 24.8     | -0.2  |
| 4              | 2    |      | 10  | 2132.5    | 20  | 1960      |     |           | QPSK           | 1  | 24     | 1732.5    | 0   | 25.0       | 24.8     | -0.2  |
| 4              | 2    |      | 15  | 2132.5    | 20  | 1960      |     |           | QPSK           | 1  | 36     | 1732.5    | 0   | 25.0       | 24.8     | -0.2  |
| 4              | 2    |      | 20  | 2132.5    | 20  | 1960      |     |           | QPSK           | 1  | 49     | 1732.5    | 0   | 25.0       | 24.8     | -0.2  |
| 5              | 2    |      | 5   | 881.5     | 20  | 1960      |     |           | QPSK           | 1  | 12     | 836.5     | 0   | 25.0       | 25.0     | 0     |
| 5              | 2    |      | 10  | 881.5     | 20  | 1960      |     |           | QPSK           | 1  | 24     | 836.5     | 0   | 25.0       | 25.0     | 0     |
| 7              | 4    |      | 5   | 2655      | 10  | 2132.5    |     |           | QPSK           | 1  | 12     | 2535      | 0   | 25.0       | 25.0     | 0     |
| 7              | 4    |      | 10  | 2655      | 10  | 2132.5    |     |           | QPSK           | 1  | 24     | 2535      | 0   | 25.0       | 25.0     | 0     |
| 7              | 4    |      | 15  | 2655      | 10  | 2132.5    |     |           | QPSK           | 1  | 36     | 2535      | 0   | 25.0       | 25.0     | 0     |
| 7              | 4    |      | 20  | 2655      | 10  | 2132.5    |     |           | QPSK           | 1  | 49     | 2535      | 0   | 25.0       | 25.0     | 0     |
| 12             | 2    |      | 3   | 737.5     | 20  | 1960      |     |           | QPSK           | 1  | 8      | 707.5     | 0   | 25.0       | 25.0     | 0     |
| 12             | 2    |      | 5   | 737.5     | 20  | 1960      |     |           | QPSK           | 1  | 12     | 707.5     | 0   | 25.0       | 25.0     | 0     |
| 12             | 2    |      | 10  | 737.5     | 20  | 1960      |     |           | QPSK           | 1  | 24     | 707.5     | 0   | 25.0       | 25.0     | 0     |
| 13             | 2    |      | 10  | 751       | 20  | 1960      |     |           | QPSK           | 1  | 24     | 782       | 0   | 24.5       | 24.5     | 0     |
| 17             | 2    |      | 5   | 740       | 10  | 1960      |     |           | QPSK           | 1  | 12     | 710       | 0   | 25.0       | 25.0     | 0     |
| 17             | 2    |      | 10  | 740       | 10  | 1960      |     |           | QPSK           | 1  | 24     | 710       | 0   | 25.0       | 25.0     | 0     |
| 25             | 26   |      | 5   | 1962.5    | 10  | 876.5     |     |           | QPSK           | 1  | 12     | 1882.5    | 0   | 25.0       | 25.0     | 0     |
| 25             | 26   |      | 10  | 1962.5    | 10  | 876.5     |     |           | QPSK           | 1  | 24     | 1882.5    | 0   | 25.0       | 25.0     | 0     |
| 25             | 26   |      | 15  | 1962.5    | 10  | 876.5     |     |           | QPSK           | 1  | 36     | 1882.5    | 0   | 25.0       | 25.0     | 0     |
| 25             | 26   |      | 20  | 1962.5    | 10  | 876.5     |     |           | QPSK           | 1  | 49     | 1882.5    | 0   | 25.0       | 25.0     | 0     |
| 26             | 25   |      | 5   | 876.5     | 20  | 1962.5    |     |           | QPSK           | 1  | 12     | 831.5     | 0   | 25.0       | 25.0     | 0     |
| 26             | 25   |      | 10  | 876.5     | 20  | 1962.5    |     |           | QPSK           | 1  | 24     | 831.5     | 0   | 25.0       | 25.0     | 0     |
| 30             | 2    |      | 5   | 2355      | 20  | 1960      |     |           | QPSK           | 1  | 12     | 2310      | 0   | 22.5       | 22.5     | 0     |
| 30             | 2    |      | 10  | 2355      | 20  | 1960      |     |           | QPSK           | 1  | 24     | 2310      | 0   | 22.5       | 22.5     | 0     |
| 2              | 4    | 12   | 5   | 1960      | 20  | 2132.5    | 10  | 737.5     | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 4    | 12   | 10  | 1960      | 20  | 2132.5    | 10  | 737.5     | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 4    | 12   | 15  | 1960      | 20  | 2132.5    | 10  | 737.5     | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 4    | 12   | 20  | 1960      | 20  | 2132.5    | 10  | 737.5     | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 4    | 13   | 5   | 1960      | 20  | 2132.5    | 10  | 751       | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 4    | 13   | 10  | 1960      | 20  | 2132.5    | 10  | 751       | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 4    | 13   | 15  | 1960      | 20  | 2132.5    | 10  | 751       | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 4    | 13   | 20  | 1960      | 20  | 2132.5    | 10  | 751       | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 24.9     | -0.1  |
| 2              | 5    | 30   | 5   | 1960      | 10  | 881.5     | 10  | 2355      | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 5    | 30   | 10  | 1960      | 10  | 881.5     | 10  | 2355      | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 5    | 30   | 15  | 1960      | 10  | 881.5     | 10  | 2355      | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 5    | 30   | 20  | 1960      | 10  | 881.5     | 10  | 2355      | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 24.9     | -0.1  |
| 2              | 12   | 30   | 5   | 1960      | 10  | 737.5     | 10  | 2355      | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 12   | 30   | 10  | 1960      | 10  | 737.5     | 10  | 2355      | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 12   | 30   | 15  | 1960      | 10  | 737.5     | 10  | 2355      | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 12   | 30   | 20  | 1960      | 10  | 737.5     | 10  | 2355      | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 29   | 30   | 5   | 1960      | 10  | 722.5     | 10  | 2355      | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 29   | 30   | 10  | 1960      | 10  | 722.5     | 10  | 2355      | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 29   | 30   | 15  | 1960      | 10  | 722.5     | 10  | 2355      | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2              | 29   | 30   | 20  | 1960      | 10  | 722.5     | 10  | 2355      | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 25.0     | 0     |

| DL (Antenna C) |      |      |     |           |     |           |     |           | UL (Antenna C) |    |        |           |     |            |          |       |
|----------------|------|------|-----|-----------|-----|-----------|-----|-----------|----------------|----|--------|-----------|-----|------------|----------|-------|
| PCC            | SCC  | TCC  | PCC |           | SCC |           | TCC |           | PCC            |    |        |           |     |            |          |       |
| Band           | Band | Band | BW  | Frequency | BW  | Frequency | BW  | Frequency | Modulation     | RB | Offset | Frequency | MPR | Standalone | CA Power | Delta |
| 4              | 2    | 12   | 5   | 2132.5    | 20  | 1960      | 10  | 737.5     | QPSK           | 1  | 12     | 1732.5    | 0   | 25.0       | 24.8     | -0.2  |
| 4              | 2    | 12   | 10  | 2132.5    | 20  | 1960      | 10  | 737.5     | QPSK           | 1  | 24     | 1732.5    | 0   | 25.0       | 24.8     | -0.2  |
| 4              | 2    | 12   | 15  | 2132.5    | 20  | 1960      | 10  | 737.5     | QPSK           | 1  | 36     | 1732.5    | 0   | 25.0       | 24.8     | -0.2  |
| 4              | 2    | 12   | 20  | 2132.5    | 20  | 1960      | 10  | 737.5     | QPSK           | 1  | 49     | 1732.5    | 0   | 25.0       | 24.8     | -0.2  |
| 5              | 2    | 30   | 5   | 881.5     | 20  | 1960      | 10  | 2355      | QPSK           | 1  | 12     | 836.5     | 0   | 25.0       | 24.9     | -0.1  |
| 5              | 2    | 30   | 10  | 881.5     | 20  | 1960      | 10  | 2355      | QPSK           | 1  | 24     | 836.5     | 0   | 25.0       | 25.0     | 0     |
| 12             | 2    | 4    | 5   | 737.5     | 20  | 1960      | 20  | 2132.5    | QPSK           | 1  | 12     | 707.5     | 0   | 25.0       | 25.0     | 0     |
| 12             | 2    | 4    | 10  | 737.5     | 20  | 1960      | 20  | 2132.5    | QPSK           | 1  | 24     | 707.5     | 0   | 25.0       | 25.0     | 0     |
| 13             | 2    | 4    | 10  | 751       | 20  | 1960      | 20  | 2132.5    | QPSK           | 1  | 24     | 782       | 0   | 24.5       | 24.5     | 0     |
| 30             | 2    | 5    | 5   | 2355      | 20  | 1960      | 10  | 881.5     | QPSK           | 1  | 12     | 2310      | 0   | 22.5       | 22.5     | 0     |
| 30             | 2    | 5    | 10  | 2355      | 20  | 1960      | 10  | 881.5     | QPSK           | 1  | 24     | 2310      | 0   | 22.5       | 22.5     | 0     |
| 12A            | 2A   | 2A   | 5   | 737.5     | 20  | 1960      | 20  | 1980      | QPSK           | 1  | 12     | 707.5     | 0   | 25.0       | 25.0     | 0     |
| 12A            | 2A   | 2A   | 10  | 737.5     | 20  | 1960      | 20  | 1980      | QPSK           | 1  | 24     | 707.5     | 0   | 25.0       | 25.0     | 0     |
| 12B            | 2A   | 12B  | 5   | 731.5     | 20  | 1960      | 10  | 738.7     | QPSK           | 1  | 12     | 701.5     | 0   | 25.0       | 24.9     | -0.1  |
| 12B            | 2A   | 12B  | 10  | 734       | 20  | 1960      | 5   | 741.2     | QPSK           | 1  | 24     | 704       | 0   | 25.0       | 24.9     | -0.1  |
| 13A            | 2A   | 2A   | 10  | 751       | 20  | 1960      | 20  | 1980      | QPSK           | 1  | 24     | 782       | 0   | 24.5       | 24.5     | 0     |
| 2A             | 12B  | 12B  | 5   | 1960      | 5   | 731.5     | 10  | 738.7     | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2A             | 12B  | 12B  | 10  | 1960      | 5   | 731.5     | 10  | 738.7     | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2A             | 12B  | 12B  | 15  | 1960      | 5   | 731.5     | 10  | 738.7     | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2A             | 12B  | 12B  | 20  | 1960      | 5   | 731.5     | 10  | 738.7     | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 24.9     | -0.1  |
| 2A             | 2A   | 12A  | 5   | 1960      | 20  | 1980      | 10  | 737.5     | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2A             | 2A   | 12A  | 10  | 1960      | 20  | 1980      | 10  | 737.5     | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 24.9     | -0.1  |
| 2A             | 2A   | 12A  | 15  | 1960      | 20  | 1980      | 10  | 737.5     | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2A             | 2A   | 12A  | 20  | 1960      | 20  | 1980      | 10  | 737.5     | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 24.9     | -0.1  |
| 4A             | 12B  | 12B  | 5   | 2132.5    | 5   | 731.5     | 10  | 738.7     | QPSK           | 1  | 12     | 1732.5    | 0   | 25.0       | 25.0     | 0     |
| 4A             | 12B  | 12B  | 10  | 2132.5    | 5   | 731.5     | 10  | 738.7     | QPSK           | 1  | 24     | 1732.5    | 0   | 25.0       | 25.0     | 0     |
| 4A             | 12B  | 12B  | 15  | 2132.5    | 5   | 731.5     | 10  | 738.7     | QPSK           | 1  | 36     | 1732.5    | 0   | 25.0       | 25.0     | 0     |
| 4A             | 12B  | 12B  | 20  | 2132.5    | 5   | 731.5     | 10  | 738.7     | QPSK           | 1  | 49     | 1732.5    | 0   | 25.0       | 25.0     | 0     |
| 4A             | 4A   | 12A  | 5   | 2112.5    | 20  | 2140      | 10  | 737.5     | QPSK           | 1  | 12     | 1712.5    | 0   | 25.0       | 24.9     | -0.1  |
| 4A             | 4A   | 12A  | 10  | 2115      | 20  | 2140      | 10  | 737.5     | QPSK           | 1  | 24     | 1715      | 0   | 25.0       | 24.9     | -0.1  |
| 4A             | 4A   | 12A  | 15  | 2117.5    | 20  | 2140      | 10  | 737.5     | QPSK           | 1  | 36     | 1717.5    | 0   | 25.0       | 25.0     | 0     |
| 4A             | 4A   | 12A  | 20  | 2120      | 20  | 2140      | 10  | 737.5     | QPSK           | 1  | 49     | 1720      | 0   | 25.0       | 24.9     | -0.1  |

**2DL CA Intra-Band Non-Contiguous**

| DL (Antenna C) |      |      |     |           |     |           |     |           | UL (Antenna C) |    |        |           |     |            |          |       |
|----------------|------|------|-----|-----------|-----|-----------|-----|-----------|----------------|----|--------|-----------|-----|------------|----------|-------|
| PCC            | SCC  | TCC  | PCC |           | SCC |           | TCC |           | PCC            |    |        |           |     |            |          |       |
| Band           | Band | Band | BW  | Frequency | BW  | Frequency | BW  | Frequency | Modulation     | RB | Offset | Frequency | MPR | Standalone | CA Power | Delta |
| 2              | 2    |      | 5   | 1932.5    | 20  | 1980      |     |           | QPSK           | 1  | 12     | 1852.5    | 0   | 25.0       | 25.0     | 0     |
| 2              | 2    |      | 10  | 1935      | 20  | 1980      |     |           | QPSK           | 1  | 24     | 1855      | 0   | 25.0       | 25.0     | 0     |
| 2              | 2    |      | 15  | 1937.5    | 20  | 1980      |     |           | QPSK           | 1  | 36     | 1857.5    | 0   | 25.0       | 25.0     | 0     |
| 2              | 2    |      | 20  | 1940      | 20  | 1980      |     |           | QPSK           | 1  | 49     | 1860      | 0   | 25.0       | 25.0     | 0     |
| 25             | 4    |      | 5   | 2112.5    | 20  | 2145      |     |           | QPSK           | 1  | 12     | 1712.5    | 0   | 25.0       | 25.0     | 0     |
| 4              | 4    |      | 10  | 2115      | 20  | 2145      |     |           | QPSK           | 1  | 24     | 1715      | 0   | 25.0       | 25.0     | 0     |
| 4              | 4    |      | 15  | 2117.5    | 20  | 2145      |     |           | QPSK           | 1  | 36     | 1717.5    | 0   | 25.0       | 25.0     | 0     |
| 4              | 4    |      | 20  | 2120      | 20  | 2145      |     |           | QPSK           | 1  | 49     | 1720      | 0   | 25.0       | 25.0     | 0     |
| 7              | 7    |      | 5   | 2622.5    | 15  | 2682.5    |     |           | QPSK           | 1  | 12     | 2502.5    | 0   | 25.0       | 25.0     | 0     |
| 7              | 7    |      | 10  | 2625      | 10  | 2685      |     |           | QPSK           | 1  | 24     | 2505      | 0   | 25.0       | 25.0     | 0     |
| 7              | 7    |      | 10  | 2625      | 15  | 2682.5    |     |           | QPSK           | 1  | 24     | 2505      | 0   | 25.0       | 25.0     | 0     |
| 7              | 7    |      | 15  | 2627.5    | 15  | 2682.5    |     |           | QPSK           | 1  | 36     | 2507.5    | 0   | 25.0       | 25.0     | 0     |
| 7              | 7    |      | 15  | 2627.5    | 20  | 2680      |     |           | QPSK           | 1  | 36     | 2507.5    | 0   | 25.0       | 25.0     | 0     |
| 7              | 7    |      | 20  | 2630      | 20  | 2680      |     |           | QPSK           | 1  | 49     | 2510      | 0   | 25.0       | 25.0     | 0     |
| 25             | 25   |      | 5   | 1932.5    | 20  | 1985      |     |           | QPSK           | 1  | 12     | 1852.5    | 0   | 25.0       | 25.0     | 0     |
| 25             | 25   |      | 10  | 1935      | 20  | 1985      |     |           | QPSK           | 1  | 24     | 1855      | 0   | 25.0       | 25.0     | 0     |
| 25             | 25   |      | 15  | 1937.5    | 20  | 1985      |     |           | QPSK           | 1  | 36     | 1857.5    | 0   | 25.0       | 25.0     | 0     |
| 25             | 25   |      | 20  | 1940      | 20  | 1985      |     |           | QPSK           | 1  | 49     | 1860      | 0   | 25.0       | 25.0     | 0     |
| 41             | 41   |      | 5   | 2498.5    | 20  | 2680      |     |           | QPSK           | 1  | 12     | 2498.5    | 0   | 23.0       | 23.0     | 0     |
| 41             | 41   |      | 10  | 2501      | 20  | 2680      |     |           | QPSK           | 1  | 24     | 2501      | 0   | 23.0       | 22.9     | -0.1  |
| 41             | 41   |      | 15  | 2503.5    | 20  | 2680      |     |           | QPSK           | 1  | 36     | 2503.5    | 0   | 23.0       | 23.0     | 0     |
| 41             | 41   |      | 20  | 2506      | 20  | 2680      |     |           | QPSK           | 1  | 49     | 2506      | 0   | 23.0       | 23.0     | 0     |
| 41A            | 41C  | 41C  | 5   | 2498.5    | 20  | 2593      | 20  | 2680.0    | QPSK           | 1  | 12     | 2498.5    | 0   | 23.0       | 23.0     | 0     |
| 41A            | 41C  | 41C  | 10  | 2501      | 20  | 2593      | 20  | 2680.0    | QPSK           | 1  | 24     | 2501      | 0   | 23.0       | 22.9     | -0.1  |
| 41A            | 41C  | 41C  | 15  | 2503.5    | 20  | 2593      | 20  | 2680.0    | QPSK           | 1  | 36     | 2503.5    | 0   | 23.0       | 22.9     | -0.1  |
| 41A            | 41C  | 41C  | 20  | 2506      | 20  | 2593      | 20  | 2680.0    | QPSK           | 1  | 49     | 2506      | 0   | 23.0       | 22.9     | -0.1  |
| 41C            | 41C  | 41A  | 5   | 2498.5    | 20  | 2593      | 20  | 2680.0    | QPSK           | 1  | 12     | 2498.5    | 0   | 23.0       | 23.0     | 0     |
| 41C            | 41C  | 41A  | 10  | 2501      | 20  | 2593      | 20  | 2680.0    | QPSK           | 1  | 24     | 2501      | 0   | 23.0       | 22.9     | -0.1  |
| 41C            | 41C  | 41A  | 15  | 2503.5    | 20  | 2593      | 20  | 2680.0    | QPSK           | 1  | 36     | 2503.5    | 0   | 23.0       | 22.9     | -0.1  |
| 41C            | 41C  | 41A  | 20  | 2506      | 20  | 2593      | 20  | 2680.0    | QPSK           | 1  | 49     | 2506      | 0   | 23.0       | 22.9     | -0.1  |

**2DL & 3DL CA Intra-Band Contiguous**

| DL (Antenna C) |      |      |     |           |     |           |     |           | UL (Antenna C) |    |        |           |     |            |          |       |
|----------------|------|------|-----|-----------|-----|-----------|-----|-----------|----------------|----|--------|-----------|-----|------------|----------|-------|
| PCC            | SCC  | TCC  | PCC |           | SCC |           | TCC |           | PCC            |    |        |           |     |            |          |       |
| Band           | Band | Band | BW  | Frequency | BW  | Frequency | BW  | Frequency | Modulation     | RB | Offset | Frequency | MPR | Standalone | CA Power | Delta |
| 2C             | 2C   |      | 5   | 1960      | 20  | 1972.5    |     |           | QPSK           | 1  | 12     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2C             | 2C   |      | 10  | 1960      | 20  | 1975      |     |           | QPSK           | 1  | 24     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2C             | 2C   |      | 15  | 1960      | 20  | 1977.5    |     |           | QPSK           | 1  | 36     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 2C             | 2C   |      | 20  | 1960      | 20  | 1980      |     |           | QPSK           | 1  | 49     | 1880      | 0   | 25.0       | 25.0     | 0     |
| 7B             | 7B   |      | 5   | 2655      | 15  | 2665      |     |           | QPSK           | 1  | 12     | 2535      | 0   | 25.0       | 25.0     | 0     |
| 7B             | 7B   |      | 15  | 2655      | 5   | 2665      |     |           | QPSK           | 1  | 36     | 2535      | 0   | 25.0       | 25.0     | 0     |
| 7C             | 7C   |      | 10  | 2655      | 20  | 2670      |     |           | QPSK           | 1  | 24     | 2535      | 0   | 25.0       | 25.0     | 0     |
| 7C             | 7C   |      | 15  | 2655      | 20  | 2672.5    |     |           | QPSK           | 1  | 36     | 2535      | 0   | 25.0       | 25.0     | 0     |
| 7C             | 7C   |      | 20  | 2655      | 20  | 2675      |     |           | QPSK           | 1  | 49     | 2535      | 0   | 25.0       | 25.0     | 0     |
| 12B            | 12B  |      | 5   | 7315      | 5   | 736.3     |     |           | QPSK           | 1  | 12     | 7015      | 0   | 25.0       | 25.0     | 0     |
| 12B            | 12B  |      | 5   | 7315      | 10  | 738.7     |     |           | QPSK           | 1  | 12     | 7015      | 0   | 25.0       | 25.0     | 0     |
| 12B            | 12B  |      | 10  | 734       | 5   | 741.2     |     |           | QPSK           | 1  | 24     | 704       | 0   | 25.0       | 25.0     | 0     |
| 41C            | 41C  |      | 5   | 2593      | 20  | 2605.5    |     |           | QPSK           | 1  | 12     | 2593      | 0   | 23.0       | 23.0     | 0     |
| 41C            | 41C  |      | 10  | 2593      | 20  | 2608      |     |           | QPSK           | 1  | 24     | 2593      | 0   | 23.0       | 23.0     | 0     |
| 41C            | 41C  |      | 15  | 2593      | 20  | 2610.5    |     |           | QPSK           | 1  | 36     | 2593      | 0   | 23.0       | 23.0     | 0     |
| 41C            | 41C  |      | 20  | 2593      | 20  | 2613      |     |           | QPSK           | 1  | 49     | 2593      | 0   | 23.0       | 23.0     | 0     |
| 41D            | 41D  | 41D  | 10  | 2593      | 20  | 2608      | 20  | 2627.8    | QPSK           | 1  | 24     | 2593      | 0   | 23.0       | 23.0     | 0     |
| 41D            | 41D  | 41D  | 15  | 2593      | 20  | 2608      | 20  | 2630.3    | QPSK           | 1  | 36     | 2593      | 0   | 23.0       | 23.0     | 0     |
| 41D            | 41D  | 41D  | 20  | 2593      | 20  | 2613      | 20  | 2633      | QPSK           | 1  | 49     | 2593      | 0   | 23.0       | 23.0     | 0     |

UL CA power measurements were performed for both antennas (Antenna C & Antenna D) at max RF output power and Reduced RF output power with QPSK modulation. The tune-up limits are provided in Section 6.3 of this report.

The UL CA mode power measurements represent the total power across both carriers. Measurements were made for all supported PCC bandwidths using the same channel/RB combination resulting in the highest standalone output power at the least MPR (0 dB). SCCs were set to the highest bandwidth possible for the combination because the maximum power ratings are the same across all bandwidths.

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

## 2UL CA Intra-Band Contiguous

### Antenna C (Max Power)

| DL (Antenna C) |      |     |           |     |           | UL (Antenna C) |    |        |           |     |        |           |     |                  |     |                          |       |  |
|----------------|------|-----|-----------|-----|-----------|----------------|----|--------|-----------|-----|--------|-----------|-----|------------------|-----|--------------------------|-------|--|
| PCC            | SCC  | PCC |           | SCC |           | PCC            |    |        |           | SCC |        |           |     | PCCStandalone    |     | PCC+SCC                  |       |  |
| Band           | Band | BW  | Frequency | BW  | Frequency | Modulation     | RB | Offset | Frequency | RB  | Offset | Frequency | MPR | Standalone Power | MPR | CA Power (Total PCC+SCC) | Delta |  |
| 7C             | 7C   | 10  | 2655      | 20  | 2669.4    | QPSK           | 1  | 49     | 2535      | 1   | 0      | 2549.4    | 0   | 25.0             | 0   | 23.0                     | -2.0  |  |
| 7C             | 7C   | 15  | 2655      | 20  | 2672.1    | QPSK           | 1  | 74     | 2535      | 1   | 0      | 2552.1    | 0   | 24.9             | 0   | 23.0                     | -1.9  |  |
| 7C             | 7C   | 20  | 2655      | 20  | 2674.8    | QPSK           | 1  | 99     | 2535      | 1   | 0      | 2554.8    | 0   | 24.9             | 0   | 23.0                     | -1.9  |  |
| 41C            | 41C  | 5   | 2593      | 20  | 2604.7    | QPSK           | 1  | 24     | 2593      | 1   | 0      | 2604.7    | 0   | 23.0             | 0   | 21.4                     | -1.6  |  |
| 41C            | 41C  | 10  | 2593      | 20  | 2607.4    | QPSK           | 1  | 49     | 2593      | 1   | 0      | 2607.4    | 0   | 23.0             | 0   | 21.5                     | -1.5  |  |
| 41C            | 41C  | 15  | 2593      | 20  | 2610.1    | QPSK           | 1  | 74     | 2593      | 1   | 0      | 2610.1    | 0   | 23.0             | 0   | 21.5                     | -1.5  |  |
| 41C            | 41C  | 20  | 2593      | 20  | 2612.8    | QPSK           | 1  | 99     | 2593      | 1   | 0      | 2612.8    | 0   | 23.0             | 0   | 21.5                     | -1.5  |  |

### Antenna C (Reduced Power)

| DL (Antenna C) |      |     |           |     |           | UL (Antenna C) |    |        |           |     |        |           |     |                  |     |                          |       |  |
|----------------|------|-----|-----------|-----|-----------|----------------|----|--------|-----------|-----|--------|-----------|-----|------------------|-----|--------------------------|-------|--|
| PCC            | SCC  | PCC |           | SCC |           | PCC            |    |        |           | SCC |        |           |     | PCCStandalone    |     | PCC+SCC                  |       |  |
| Band           | Band | BW  | Frequency | BW  | Frequency | Modulation     | RB | Offset | Frequency | RB  | Offset | Frequency | MPR | Standalone Power | MPR | CA Power (Total PCC+SCC) | Delta |  |
| 7C             | 7C   | 10  | 2655      | 20  | 2669.4    | QPSK           | 1  | 49     | 2535      | 1   | 0      | 2549.4    | 0   | 13.0             | 0   | 10.8                     | -2.2  |  |
| 7C             | 7C   | 15  | 2655      | 20  | 2672.1    | QPSK           | 1  | 74     | 2535      | 1   | 0      | 2552.1    | 0   | 12.9             | 0   | 10.8                     | -2.1  |  |
| 7C             | 7C   | 20  | 2655      | 20  | 2674.8    | QPSK           | 1  | 99     | 2535      | 1   | 0      | 2554.8    | 0   | 13.0             | 0   | 10.7                     | -2.3  |  |
| 41C            | 41C  | 5   | 2593      | 20  | 2604.7    | QPSK           | 1  | 24     | 2593      | 1   | 0      | 2604.7    | 0   | 14.7             | 0   | 13.0                     | -1.7  |  |
| 41C            | 41C  | 10  | 2593      | 20  | 2607.4    | QPSK           | 1  | 49     | 2593      | 1   | 0      | 2607.4    | 0   | 14.7             | 0   | 13.0                     | -1.7  |  |
| 41C            | 41C  | 15  | 2593      | 20  | 2610.1    | QPSK           | 1  | 74     | 2593      | 1   | 0      | 2610.1    | 0   | 14.7             | 0   | 13.1                     | -1.6  |  |
| 41C            | 41C  | 20  | 2593      | 20  | 2612.8    | QPSK           | 1  | 99     | 2593      | 1   | 0      | 2612.8    | 0   | 14.6             | 0   | 13.1                     | -1.5  |  |

**2UL CA Intra-Band Contiguous (continued)****Antenna D (Max Power)**

| DL (Antenna D) |      |     |            |     |            | UL (Antenna D) |    |         |            |     |         |            |     |                  |     |                          |       |
|----------------|------|-----|------------|-----|------------|----------------|----|---------|------------|-----|---------|------------|-----|------------------|-----|--------------------------|-------|
| PCC            | SCC  | PCC |            | SCC |            | PCC            |    |         |            | SCC |         |            |     | PCC Standalone   |     | PCC+SCC                  |       |
| Band           | Band | BW  | Fr equency | BW  | Fr equency | Modulation     | RB | Off set | Fr equency | RB  | Off set | Fr equency | MPR | Standalone Power | MPR | CA Power (Total PCC+SCC) | Delta |
| 7C             | 7C   | 10  | 2655       | 20  | 2669.4     | QPSK           | 1  | 49      | 2535       | 1   | 0       | 2549.4     | 0   | 22.9             | 0   | 20.7                     | -2.2  |
| 7C             | 7C   | 15  | 2655       | 20  | 2672.1     | QPSK           | 1  | 74      | 2535       | 1   | 0       | 2552.1     | 0   | 23.0             | 0   | 20.7                     | -2.3  |
| 7C             | 7C   | 20  | 2655       | 20  | 2674.8     | QPSK           | 1  | 99      | 2535       | 1   | 0       | 2554.8     | 0   | 23.0             | 0   | 21.0                     | -2.0  |
| 41C            | 41C  | 5   | 2593       | 20  | 2604.7     | QPSK           | 1  | 24      | 2593       | 1   | 0       | 2604.7     | 0   | 21.8             | 0   | 21.0                     | -0.8  |
| 41C            | 41C  | 10  | 2593       | 20  | 2607.4     | QPSK           | 1  | 49      | 2593       | 1   | 0       | 2607.4     | 0   | 21.7             | 0   | 20.8                     | -0.9  |
| 41C            | 41C  | 15  | 2593       | 20  | 2610.1     | QPSK           | 1  | 74      | 2593       | 1   | 0       | 2610.1     | 0   | 21.6             | 0   | 20.9                     | -0.7  |
| 41C            | 41C  | 20  | 2593       | 20  | 2612.8     | QPSK           | 1  | 99      | 2593       | 1   | 0       | 2612.8     | 0   | 21.3             | 0   | 20.9                     | -0.4  |

**Antenna D (Reduced Power)**

| DL (Antenna D) |      |     |           |     |           | UL (Antenna D) |    |        |           |     |        |           |     |                  |     |                          |       |
|----------------|------|-----|-----------|-----|-----------|----------------|----|--------|-----------|-----|--------|-----------|-----|------------------|-----|--------------------------|-------|
| PCC            | SCC  | PCC |           | SCC |           | PCC            |    |        |           | SCC |        |           |     | PCCStandalone    |     | PCC+SCC                  |       |
| Band           | Band | BW  | Frequency | BW  | Frequency | Modulation     | RB | Offset | Frequency | RB  | Offset | Frequency | MPR | Standalone Power | MPR | CA Power (Total PCC+SCC) | Delta |
| 7C             | 7C   | 10  | 2655      | 20  | 2669.4    | QPSK           | 1  | 49     | 2535      | 1   | 0      | 2549.4    | 0   | 13.6             | 0   | 10.9                     | -2.7  |
| 7C             | 7C   | 15  | 2655      | 20  | 2672.1    | QPSK           | 1  | 74     | 2535      | 1   | 0      | 2552.1    | 0   | 13.5             | 0   | 10.9                     | -2.6  |
| 7C             | 7C   | 20  | 2655      | 20  | 2674.8    | QPSK           | 1  | 99     | 2535      | 1   | 0      | 2554.8    | 0   | 13.7             | 0   | 10.9                     | -2.8  |
| 41C            | 41C  | 5   | 2593      | 20  | 2604.7    | QPSK           | 1  | 24     | 2593      | 1   | 0      | 2604.7    | 0   | 14.5             | 0   | 13.4                     | -1.1  |
| 41C            | 41C  | 10  | 2593      | 20  | 2607.4    | QPSK           | 1  | 49     | 2593      | 1   | 0      | 2607.4    | 0   | 14.4             | 0   | 13.4                     | -1.0  |
| 41C            | 41C  | 15  | 2593      | 20  | 2610.1    | QPSK           | 1  | 74     | 2593      | 1   | 0      | 2610.1    | 0   | 14.5             | 0   | 13.4                     | -1.1  |
| 41C            | 41C  | 20  | 2593      | 20  | 2612.8    | QPSK           | 1  | 99     | 2593      | 1   | 0      | 2612.8    | 0   | 14.5             | 0   | 13.5                     | -1.0  |

## 9.6. Wi-Fi SISO

### Measured Results

| Band (GHz) | Mode           | No. of Transmitters | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |              |
|------------|----------------|---------------------|------|-------------|---------------------------------|--------------|
|            |                |                     |      |             | Antenna A                       | Antenna B    |
| 2.4        | 802.11b        | 1 Tx                | 1    | 2412        | 16.0                            | 16.0         |
|            |                |                     | 6    | 2437        | 16.0                            | 16.0         |
|            |                |                     | 11   | 2462        | 16.0                            | 16.0         |
| Band (GHz) | Mode           | No. of Transmitters | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |              |
|            |                |                     |      |             | Antenna A                       | Antenna B    |
| 5.2        | 802.11n HT40   | 1 Tx                | 38   | 5190        | 14.0                            | Not Required |
|            |                |                     | 46   | 5230        | 17.0                            |              |
| Band (GHz) | Mode           | No. of Transmitters | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |              |
|            |                |                     |      |             | Antenna A                       | Antenna B    |
| 5.3        | 802.11n HT40   | 1 Tx                | 54   | 5270        | Not Required                    | 15.5         |
|            |                |                     | 62   | 5310        |                                 | 14.0         |
| Band (GHz) | Mode           | No. of Transmitters | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |              |
|            |                |                     |      |             | Antenna A                       | Antenna B    |
| 5.5        | 802.11ac VHT80 | 1 Tx                | 106  | 5530        | 13.0                            | 13.0         |
|            |                |                     | 122  | 5610        | 15.0                            | 15.0         |
|            |                |                     | 138  | 5690        | 15.0                            | 15.0         |
| Band (GHz) | Mode           | No. of Transmitters | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |              |
|            |                |                     |      |             | Antenna A                       | Antenna B    |
| 5.8        | 802.11ac VHT80 | 1 Tx                | 155  | 5775        | 15.0                            | 15.5         |

### Note(s):

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

## 9.7. WLAN MIMO

### Measured Results

| Band (GHz) | Mode               | No. of Transmitters | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |           |
|------------|--------------------|---------------------|------|-------------|---------------------------------|-----------|
|            |                    |                     |      |             | Antenna A                       | Antenna B |
| 2.4        | 802.11g            | 2 Tx                | 2    | 2417        | 16.0                            | 16.0      |
|            |                    |                     | 6    | 2437        | 16.0                            | 16.0      |
|            |                    |                     | 10   | 2457        | 16.0                            | 16.0      |
| Band (GHz) | Mode               | No. of Transmitters | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |           |
|            |                    |                     |      |             | Antenna A                       | Antenna B |
| 5.2        | 802.11n HT40 CDD   | 2 Tx                | 38   | 5190        | 13.0                            | 13.0      |
|            |                    |                     | 46   | 5230        | 17.0                            | 16.0      |
| Band (GHz) | Mode               | No. of Transmitters | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |           |
|            |                    |                     |      |             | Antenna A                       | Antenna B |
| 5.5        | 802.11ac VHT80 CDD | 2 Tx                | 106  | 5530        | 11.5                            | 11.5      |
|            |                    |                     | 122  | 5610        | 15.0                            | 15.0      |
|            |                    |                     | 138  | 5690        | 15.0                            | 15.0      |
| Band (GHz) | Mode               | No. of Transmitters | Ch # | Freq. (MHz) | Max. Avg. RF Output Power (dBm) |           |
|            |                    |                     |      |             | Antenna A                       | Antenna B |
| 5.8        | 802.11ac VHT80 CDD | 2 Tx                | 155  | 5775        | 15.0                            | 15.4      |

### Note(s):

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

## 9.8. Bluetooth

### $P_{High}$ Average Power Measured Results

| Band (GHz) | Mode | Ch # | Freq. (MHz) | Avg Pwr (dBm) |
|------------|------|------|-------------|---------------|
| 2.4        | GFSK | 0    | 2402        | 16.2          |
|            |      | 39   | 2441        | 16.5          |
|            |      | 78   | 2480        | 16.5          |

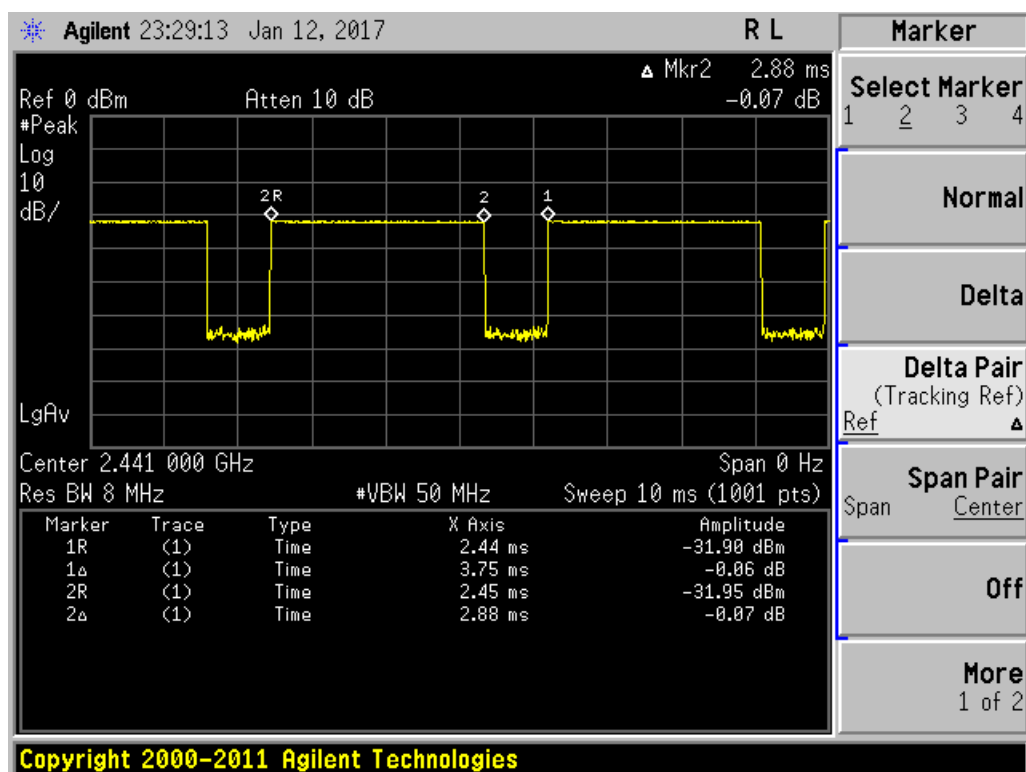
### $P_{Low}$ Average Power Measured Results

| Band (GHz) | Mode | Ch # | Freq. (MHz) | Avg Pwr (dBm) |
|------------|------|------|-------------|---------------|
| 2.4        | GFSK | 0    | 2402        | 9.5           |
|            |      | 39   | 2441        | 9.6           |
|            |      | 78   | 2480        | 9.4           |

### Duty Factor Measured Results

| Mode | Type | T on (ms) | Period (ms) | Duty Cycle | Crest Factor (1/duty cycle) |
|------|------|-----------|-------------|------------|-----------------------------|
| GFSK | DH1  | 2.88      | 3.75        | 76.80%     | 1.30                        |
|      | DH3  | 2.88      | 3.75        | 76.80%     | 1.30                        |
|      | DH5  | 2.88      | 3.75        | 76.80%     | 1.30                        |

### GFSK Duty Cycle plots



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

SAR Test Reduction criteria are as follows:

### KDB 447498 D01 General RF Exposure Guidance:

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

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

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

When the maximum output power and tune-up tolerance specified for production units in a secondary mode is  $\leq \frac{1}{4}$  dB higher than the primary mode or when the highest reported SAR of the primary mode is scaled by the ratio of specified maximum output power and tune-up tolerance of secondary to primary mode and the adjusted SAR is  $\leq 1.2$  W/kg, SAR measurement is not required for the secondary mode

### KDB 941225 D05 SAR for LTE Devices:

SAR test reduction is applied using the following criteria:

- Start with the largest channel bandwidth and measure SAR for QPSK with 1 RB, and 50% RB allocation, using the RB offset and required test channel combination with the highest maximum output power among RB offsets at the upper edge, middle and lower edge of each required test channel.
- When the reported SAR is  $> 0.8$  W/kg, testing for other Channels is performed at the highest output power level for 1RB, and 50% RB configuration for that channel.
- Testing for 100% RB configuration is performed at the highest output power level for 100% RB configuration across the Low, Mid and High Channel when the highest reported SAR for 1 RB and 50% RB are  $> 0.8$  W/kg. Testing for the remaining required channels is not needed because the reported SAR for 100% RB Allocation  $< 1.45$  W/kg.
- Testing for 16-QAM modulation is not required because the reported SAR for QPSK is  $< 1.45$  W/Kg and its output power is not more than 0.5 dB higher than that of QPSK.
- Testing for the other channel bandwidths is not required because the reported SAR for the highest channel bandwidth is  $< 1.45$  W/Kg and its output power is not more than 0.5 dB higher than that of the highest channel bandwidth.

### KDB 248227 D01 SAR meas for 802.11:

SAR test reduction for 802.11 Wi-Fi transmission mode configurations are considered separately for DSSS and OFDM. An initial test position is determined to reduce the number of tests required for certain exposure configurations with multiple test positions. An initial test configuration is determined for each frequency band and aggregated band according to maximum output power, channel bandwidth, wireless mode configurations and other operating parameters to streamline the measurement requirements. For 2.4 GHz DSSS, either the initial test position or DSSS procedure is applied to reduce the number of SAR tests; these are mutually exclusive. For OFDM, an initial test position is only applicable to next to the ear, UMPC mini-tablet and hotspot mode configurations, which is tested using the initial test configuration to facilitate test reduction. For other exposure conditions with a fixed test position, SAR test reduction is determined using only the initial test configuration.

The multiple test positions require SAR measurements in head, hotspot mode or UMPC mini-tablet configurations may be reduced according to the highest reported SAR determined using the initial test position(s) by applying the DSSS or OFDM SAR measurement procedures in the required wireless mode test configuration(s). The initial test position(s) is measured using the highest measured maximum output power channel in the required wireless mode test configuration(s). When the reported SAR for the initial test position is:

- $\leq 0.4$  W/kg, further SAR measurement is not required for the other test positions in that exposure configuration and wireless mode combination within the frequency band or aggregated band. DSSS and OFDM configurations are considered separately according to the required SAR procedures.
- $> 0.4$  W/kg, SAR is repeated using the same wireless mode test configuration tested in the initial test position to measure the subsequent next closet/smallest test separation distance and maximum coupling test position, on the highest maximum output power channel, until the reported SAR is  $\leq 0.8$  W/kg or all required test positions are tested.
  - For subsequent test positions with equivalent test separation distance or when exposure is dominated by coupling conditions, the position for maximum coupling condition should be tested.
  - When it is unclear, all equivalent conditions must be tested.

- For all positions/configurations tested using the initial test position and subsequent test positions, when the reported SAR is  $> 0.8$  W/kg, measure the SAR for these positions/configurations on the subsequent next highest measured output power channel(s) until the reported SAR is  $\leq 1.2$  W/kg or all required test channels are considered.
  - The additional power measurements required for this step should be limited to those necessary for identifying subsequent highest output power channels to apply the test reduction.
- When the specified maximum output power is the same for both UNII 1 and UNII 2A, begin SAR measurements in UNII 2A with the channel with the highest measured output power. If the reported SAR for UNII 2A is  $\leq 1.2$  W/kg, SAR is not required for UNII 1; otherwise treat the remaining bands separately and test them independently for SAR.
- When the specified maximum output power is different between UNII 1 and UNII 2A, begin SAR with the band that has the higher specified maximum output. If the highest reported SAR for the band with the highest specified power is  $\leq 1.2$  W/kg, testing for the band with the lower specified output power is not required; otherwise test the remaining bands independently for SAR.

To determine the initial test position, Area Scans were performed to determine the position with the *Maximum Value of SAR (measured)*. The position that produced the highest *Maximum Value of SAR* is considered the worst case position; thus used as the initial test position.

**10.1. GSM850**

| Mode         | Antenna | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|--------------|---------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|              |         |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| GPRS 2 Slots | C       | 0          | Rear          | 128   | 824.2       | 25.0          | 25.0  | 1.000          | 1.000  | 0.498           | 0.498  |          |
|              |         |            |               | 190   | 836.6       | 25.0          | 25.0  | 0.893          | 0.893  | 0.446           | 0.446  |          |
|              |         |            |               | 251   | 848.8       | 25.0          | 25.0  | 0.778          | 0.778  | 0.388           | 0.388  |          |
|              |         |            | Edge 1        | 190   | 836.6       | 25.0          | 25.0  | 0.606          | 0.606  | 0.287           | 0.287  |          |
|              |         |            | Edge 2        | 190   | 836.6       | 25.0          | 25.0  | 0.076          | 0.076  | 0.041           | 0.041  |          |
|              |         |            | Edge 3        | 190   | 836.6       | 25.0          | 25.0  | 0.014          | 0.014  | 0.007           | 0.007  |          |
| GPRS 2 Slots | D       | 0          | Rear          | 128   | 824.2       | 24.0          | 24.0  | 1.170          | 1.170  | 0.581           | 0.581  | 1        |
|              |         |            |               | 190   | 836.6       | 24.0          | 24.0  | 1.060          | 1.060  | 0.479           | 0.479  |          |
|              |         |            |               | 251   | 848.8       | 24.0          | 24.0  | 0.967          | 0.967  | 0.433           | 0.433  |          |
|              |         |            | Edge 1        | 190   | 836.6       | 24.0          | 24.0  | 0.748          | 0.748  | 0.358           | 0.358  |          |
|              |         |            | Edge 3        | 190   | 836.6       | 24.0          | 24.0  | 0.006          | 0.006  | 0.003           | 0.003  |          |
|              |         |            | Edge 4        | 190   | 836.6       | 24.0          | 24.0  | 0.046          | 0.046  | 0.023           | 0.023  |          |

**Note(s):**

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.

**10.2. GSM1900**

| Mode         | Antenna | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|--------------|---------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|              |         |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| GPRS 2 Slots | C       | 0          | Rear          | 512   | 1850.2      | 19.0          | 18.8  | 0.884          | 0.926  | 0.396           | 0.415  |          |
|              |         |            |               | 661   | 1880.0      | 19.0          | 18.7  | 0.948          | 1.016  | 0.423           | 0.453  |          |
|              |         |            |               | 810   | 1909.8      | 19.0          | 18.8  | 1.070          | 1.120  | 0.471           | 0.493  |          |
|              |         |            | Edge 1        | 661   | 1880.0      | 19.0          | 18.7  | 0.461          | 0.494  | 0.221           | 0.237  |          |
|              |         |            | Edge 2        | 661   | 1880.0      | 19.0          | 18.7  | 0.082          | 0.088  | 0.040           | 0.043  |          |
|              |         |            | Edge 3        | 661   | 1880.0      | 19.0          | 18.7  | -              | -      | -               | -      |          |
| GPRS 2 Slots | D       | 0          | Rear          | 512   | 1850.2      | 20.8          | 20.8  | 1.110          | 1.110  | 0.509           | 0.509  |          |
|              |         |            |               | 661   | 1880.0      | 20.8          | 20.7  | 1.140          | 1.167  | 0.519           | 0.531  | 2        |
|              |         |            |               | 810   | 1909.8      | 20.8          | 20.8  | 1.080          | 1.080  | 0.484           | 0.484  |          |
|              |         |            | Edge 1        | 661   | 1880.0      | 20.8          | 20.7  | 0.578          | 0.591  | 0.279           | 0.285  |          |
|              |         |            | Edge 3        | 661   | 1880.0      | 20.8          | 20.7  | -              | -      | -               | -      |          |
|              |         |            | Edge 4        | 661   | 1880.0      | 20.8          | 20.7  | 0.069          | 0.071  | 0.033           | 0.034  |          |

**Note(s):**

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- SAR values represented by "-" indicate no SAR peaks were detected during area scans.

**10.3. W-CDMA Band II**

| Mode                 | Antenna | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|----------------------|---------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                      |         |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Rel 99 RMC 12.2 kbps | C       | 0          | Rear          | 9262  | 1852.4      | 12.6          | 12.3  | 0.889          | 0.953  | 0.404           | 0.433  | 3        |
|                      |         |            |               | 9400  | 1880.0      | 12.6          | 12.3  | 1.020          | 1.093  | 0.451           | 0.484  |          |
|                      |         |            |               | 9538  | 1907.6      | 12.6          | 12.3  | 0.985          | 1.055  | 0.440           | 0.471  |          |
|                      |         |            | Edge 1        | 9400  | 1880.0      | 12.6          | 12.3  | 0.453          | 0.485  | 0.216           | 0.231  |          |
|                      |         |            | Edge 2        | 9400  | 1880.0      | 12.6          | 12.3  | 0.094          | 0.101  | 0.045           | 0.048  |          |
|                      |         |            | Edge 3        | 9400  | 1880.0      | 12.6          | 12.3  | -              | -      | -               | -      |          |
| Rel 99 RMC 12.2 kbps | D       | 0          | Rear          | 9262  | 1852.4      | 14.2          | 13.8  | 0.953          | 1.045  | 0.428           | 0.469  |          |
|                      |         |            |               | 9400  | 1880.0      | 14.2          | 14.0  | 0.925          | 0.969  | 0.422           | 0.442  |          |
|                      |         |            |               | 9538  | 1907.6      | 14.2          | 13.8  | 0.890          | 0.976  | 0.403           | 0.442  |          |
|                      |         |            | Edge 1        | 9400  | 1880.0      | 14.2          | 14.0  | 0.513          | 0.537  | 0.243           | 0.254  |          |
|                      |         |            | Edge 3        | 9400  | 1880.0      | 14.2          | 14.0  | -              | -      | -               | -      |          |
|                      |         |            | Edge 4        | 9400  | 1880.0      | 14.2          | 14.0  | 0.049          | 0.051  | 0.024           | 0.025  |          |

**Note(s):**

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- SAR values represented by "-" indicate no SAR peaks were detected during area scans.

**10.4. W-CDMA Band IV**

| Mode                 | Antenna | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|----------------------|---------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                      |         |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Rel 99 RMC 12.2 kbps | C       | 0          | Rear          | 1312  | 1712.4      | 13.0          | 13.0  | 1.060          | 1.060  | 0.471           | 0.471  | 4        |
|                      |         |            |               | 1413  | 1732.6      | 13.0          | 13.0  | 1.080          | 1.080  | 0.479           | 0.479  |          |
|                      |         |            |               | 1513  | 1752.6      | 13.0          | 13.0  | 1.140          | 1.140  | 0.500           | 0.500  |          |
|                      |         |            | Edge 1        | 1413  | 1732.6      | 13.0          | 13.0  | 0.568          | 0.568  | 0.275           | 0.275  |          |
|                      |         |            | Edge 2        | 1413  | 1732.6      | 13.0          | 13.0  | 0.052          | 0.052  | 0.027           | 0.027  |          |
|                      |         |            | Edge 3        | 1413  | 1732.6      | 13.0          | 13.0  | -              | -      | -               | -      |          |
| Rel 99 RMC 12.2 kbps | D       | 0          | Rear          | 1312  | 1712.4      | 13.7          | 13.3  | 1.020          | 1.118  | 0.459           | 0.503  |          |
|                      |         |            |               | 1413  | 1732.6      | 13.7          | 13.2  | 1.010          | 1.133  | 0.455           | 0.511  |          |
|                      |         |            |               | 1513  | 1752.6      | 13.7          | 13.2  | 1.000          | 1.122  | 0.448           | 0.503  |          |
|                      |         |            | Edge 1        | 1413  | 1732.6      | 13.7          | 13.2  | 0.529          | 0.594  | 0.256           | 0.287  |          |
|                      |         |            | Edge 3        | 1413  | 1732.6      | 13.7          | 13.2  | -              | -      | -               | -      |          |
|                      |         |            | Edge 4        | 1413  | 1732.6      | 13.7          | 13.2  | 0.065          | 0.073  | 0.032           | 0.036  |          |

**Note(s):**

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- SAR values represented by "-" indicate no SAR peaks were detected during area scans.

## 10.5. W-CDMA Band V

| Mode                 | Antenna | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|----------------------|---------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                      |         |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| Rel 99 RMC 12.2 kbps | C       | 0          | Rear          | 4132  | 826.4       | 18.8          | 18.5  | 0.801          | 0.858  | 0.410           | 0.439  |          |
|                      |         |            |               | 4183  | 836.6       | 18.8          | 18.5  | 0.818          | 0.877  | 0.418           | 0.448  |          |
|                      |         |            |               | 4233  | 846.6       | 18.8          | 18.5  | 0.885          | 0.948  | 0.454           | 0.486  |          |
|                      |         |            | Edge 1        | 4183  | 836.6       | 18.8          | 18.5  | 0.668          | 0.716  | 0.317           | 0.340  |          |
|                      |         |            | Edge 2        | 4183  | 836.6       | 18.8          | 18.5  | 0.110          | 0.118  | 0.060           | 0.064  |          |
|                      |         |            | Edge 3        | 4183  | 836.6       | 18.8          | 18.5  | 0.017          | 0.018  | 0.010           | 0.010  |          |
| Rel 99 RMC 12.2 kbps | D       | 0          | Rear          | 4132  | 826.4       | 17.2          | 17.0  | 1.120          | 1.173  | 0.524           | 0.549  | 5        |
|                      |         |            |               | 4183  | 836.6       | 17.2          | 17.0  | 1.100          | 1.152  | 0.514           | 0.538  |          |
|                      |         |            |               | 4233  | 846.6       | 17.2          | 17.0  | 1.040          | 1.089  | 0.487           | 0.510  |          |
|                      |         |            | Edge 1        | 4183  | 836.6       | 17.2          | 17.0  | 0.741          | 0.776  | 0.350           | 0.366  |          |
|                      |         |            | Edge 3        | 4183  | 836.6       | 17.2          | 17.0  | 0.009          | 0.009  | 0.006           | 0.006  |          |
|                      |         |            | Edge 4        | 4183  | 836.6       | 17.2          | 17.0  | 0.049          | 0.051  | 0.026           | 0.027  |          |

### Note(s):

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.

## 10.6. CDMA BC0

| Mode             | Antenna | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------|---------|------------|---------------|-------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                  |         |            |               |       |             | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| 1xRTT (RC3 SO32) | C       | 0          | Rear          | 1013  | 824.7       | 18.8          | 18.4  | 0.898          | 0.985  | 0.464           | 0.509  |          |
|                  |         |            |               | 384   | 836.5       | 18.8          | 18.4  | 0.861          | 0.944  | 0.445           | 0.488  |          |
|                  |         |            |               | 777   | 848.3       | 18.8          | 18.4  | 0.856          | 0.939  | 0.443           | 0.486  |          |
|                  |         |            | Edge 1        | 384   | 836.5       | 18.8          | 18.4  | 0.709          | 0.777  | 0.329           | 0.361  |          |
|                  |         |            | Edge 2        | 384   | 836.5       | 18.8          | 18.4  | 0.077          | 0.085  | 0.040           | 0.044  |          |
|                  |         |            | Edge 3        | 384   | 836.5       | 18.8          | 18.4  | 0.009          | 0.010  | 0.005           | 0.006  |          |
| 1xEVDO (Rel. 0)  | C       | 0          | Rear          | 1013  | 824.7       | 18.8          | 18.6  | 0.922          | 0.965  | 0.481           | 0.504  |          |
|                  |         |            |               | 384   | 836.5       | 18.8          | 18.5  | 0.885          | 0.948  | 0.462           | 0.495  |          |
|                  |         |            |               | 777   | 848.3       | 18.8          | 18.4  | 0.858          | 0.941  | 0.447           | 0.490  |          |
|                  |         |            | Edge 1        | 384   | 836.5       | 18.8          | 18.5  | 0.688          | 0.737  | 0.330           | 0.354  |          |
|                  |         |            | Edge 2        | 384   | 836.5       | 18.8          | 18.5  | 0.078          | 0.083  | 0.041           | 0.044  |          |
|                  |         |            | Edge 3        | 384   | 836.5       | 18.8          | 18.5  | 0.008          | 0.009  | 0.005           | 0.005  |          |
| 1xRTT (RC3 SO32) | D       | 0          | Rear          | 1013  | 824.7       | 17.2          | 17.0  | 1.090          | 1.141  | 0.519           | 0.543  | 6        |
|                  |         |            |               | 384   | 836.5       | 17.2          | 17.0  | 0.984          | 1.030  | 0.469           | 0.491  |          |
|                  |         |            |               | 777   | 848.3       | 17.2          | 17.0  | 0.963          | 1.008  | 0.461           | 0.483  |          |
|                  |         |            | Edge 1        | 384   | 836.5       | 17.2          | 17.0  | 0.676          | 0.708  | 0.321           | 0.336  |          |
|                  |         |            | Edge 3        | 384   | 836.5       | 17.2          | 17.0  | 0.007          | 0.008  | 0.004           | 0.004  |          |
|                  |         |            | Edge 4        | 384   | 836.5       | 17.2          | 17.0  | 0.048          | 0.050  | 0.026           | 0.027  |          |
| 1xEVDO (Rel. 0)  | D       | 0          | Rear          | 1013  | 824.7       | 17.2          | 17.0  | 1.020          | 1.068  | 0.507           | 0.531  |          |
|                  |         |            |               | 384   | 836.5       | 17.2          | 17.0  | 0.941          | 0.985  | 0.470           | 0.492  |          |
|                  |         |            |               | 777   | 848.3       | 17.2          | 17.0  | 0.923          | 0.966  | 0.462           | 0.484  |          |
|                  |         |            | Edge 1        | 384   | 836.5       | 17.2          | 17.0  | 0.703          | 0.736  | 0.330           | 0.346  |          |
|                  |         |            | Edge 3        | 384   | 836.5       | 17.2          | 17.0  | 0.002          | 0.002  | 0.001           | 0.001  |          |
|                  |         |            | Edge 4        | 384   | 836.5       | 17.2          | 17.0  | 0.049          | 0.051  | 0.026           | 0.027  |          |

### Note(s):

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.

**10.7. CDMA BC1**

| Mode                | Antenna | Dist.<br>(mm) | Test Position | Ch #. | Freq.<br>(MHz) | Power (dBm)      |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot<br>No. |
|---------------------|---------|---------------|---------------|-------|----------------|------------------|-------|----------------|--------|-----------------|--------|-------------|
|                     |         |               |               |       |                | Tune-up<br>limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |             |
| 1xRTT<br>(RC3 SO32) | C       | 0             | Rear          | 25    | 1851.3         | 12.6             | 12.1  | 1.010          | 1.133  | 0.445           | 0.499  |             |
|                     |         |               |               | 600   | 1880.0         | 12.6             | 12.3  | 0.996          | 1.067  | 0.439           | 0.470  |             |
|                     |         |               |               | 1175  | 1908.8         | 12.6             | 12.3  | 0.925          | 0.991  | 0.413           | 0.443  |             |
|                     |         |               | Edge 1        | 600   | 1880.0         | 12.6             | 12.3  | 0.450          | 0.482  | 0.213           | 0.228  |             |
|                     |         |               | Edge 2        | 600   | 1880.0         | 12.6             | 12.3  | 0.070          | 0.075  | 0.035           | 0.038  |             |
|                     |         |               | Edge 3        | 600   | 1880.0         | 12.6             | 12.3  | -              | -      | -               | -      |             |
| 1xEVDO<br>(Rel. 0)  | C       | 0             | Rear          | 25    | 1851.3         | 12.6             | 12.3  | 0.988          | 1.059  | 0.439           | 0.470  |             |
|                     |         |               |               | 600   | 1880.0         | 12.6             | 12.3  | 0.975          | 1.045  | 0.431           | 0.462  |             |
|                     |         |               |               | 1175  | 1908.8         | 12.6             | 12.3  | 1.040          | 1.114  | 0.457           | 0.490  | 7           |
|                     |         |               | Edge 1        | 600   | 1880.0         | 12.6             | 12.3  | 0.466          | 0.499  | 0.220           | 0.236  |             |
|                     |         |               | Edge 2        | 600   | 1880.0         | 12.6             | 12.3  | 0.088          | 0.094  | 0.043           | 0.046  |             |
|                     |         |               | Edge 3        | 600   | 1880.0         | 12.6             | 12.3  | -              | -      | -               | -      |             |
| 1xRTT<br>(RC3 SO32) | D       | 0             | Rear          | 25    | 1851.3         | 14.2             | 14.0  | 1.020          | 1.068  | 0.457           | 0.479  |             |
|                     |         |               |               | 600   | 1880.0         | 14.2             | 14.0  | 1.040          | 1.089  | 0.459           | 0.481  |             |
|                     |         |               |               | 1175  | 1908.8         | 14.2             | 14.0  | 1.050          | 1.099  | 0.459           | 0.481  |             |
|                     |         |               | Edge 1        | 600   | 1880.0         | 14.2             | 14.0  | 0.513          | 0.537  | 0.244           | 0.255  |             |
|                     |         |               | Edge 3        | 600   | 1880.0         | 14.2             | 14.0  | -              | -      | -               | -      |             |
|                     |         |               | Edge 4        | 600   | 1880.0         | 14.2             | 14.0  | 0.051          | 0.053  | 0.025           | 0.026  |             |
| 1xEVDO<br>(Rel. 0)  | D       | 0             | Rear          | 25    | 1851.3         | 14.2             | 14.0  | 0.971          | 1.017  | 0.441           | 0.462  |             |
|                     |         |               |               | 600   | 1880.0         | 14.2             | 14.0  | 0.964          | 1.009  | 0.438           | 0.459  |             |
|                     |         |               |               | 1175  | 1908.8         | 14.2             | 14.0  | 0.980          | 1.026  | 0.441           | 0.462  |             |
|                     |         |               | Edge 1        | 600   | 1880.0         | 14.2             | 14.0  | 0.503          | 0.527  | 0.240           | 0.251  |             |
|                     |         |               | Edge 3        | 600   | 1880.0         | 14.2             | 14.0  | -              | -      | -               | -      |             |
|                     |         |               | Edge 4        | 600   | 1880.0         | 14.2             | 14.0  | 0.054          | 0.057  | 0.027           | 0.028  |             |

**Note(s):**

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- SAR values represented by "-" indicate no SAR peaks were detected during area scans.

**10.8. CDMA BC10**

| Mode                | Antenna | Dist.<br>(mm) | Test Position | Ch #. | Freq.<br>(MHz) | Power (dBm)      |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot<br>No. |
|---------------------|---------|---------------|---------------|-------|----------------|------------------|-------|----------------|--------|-----------------|--------|-------------|
|                     |         |               |               |       |                | Tune-up<br>limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |             |
| 1xRTT<br>(RC3 SO32) | C       | 0             | Rear          | 476   | 817.9          | 18.5             | 18.5  | 0.983          | 0.983  | 0.518           | 0.518  |             |
|                     |         |               |               | 580   | 820.5          | 18.5             | 18.5  | 0.943          | 0.943  | 0.497           | 0.497  |             |
|                     |         |               |               | 670   | 822.8          | 18.5             | 18.5  | 0.923          | 0.923  | 0.487           | 0.487  |             |
|                     |         |               | Edge 1        | 580   | 820.5          | 18.5             | 18.5  | 0.631          | 0.631  | 0.312           | 0.312  |             |
|                     |         |               | Edge 2        | 580   | 820.5          | 18.5             | 18.5  | 0.092          | 0.092  | 0.049           | 0.049  |             |
|                     |         |               | Edge 3        | 580   | 820.5          | 18.5             | 18.5  | 0.009          | 0.009  | 0.005           | 0.005  |             |
| 1xEVDO<br>(Rel. 0)  | C       | 0             | Rear          | 476   | 817.9          | 18.5             | 18.5  | 0.894          | 0.894  | 0.471           | 0.471  |             |
|                     |         |               |               | 580   | 820.5          | 18.5             | 18.5  | 0.858          | 0.858  | 0.451           | 0.451  |             |
|                     |         |               |               | 670   | 822.8          | 18.5             | 18.4  | 0.862          | 0.882  | 0.454           | 0.465  |             |
|                     |         |               | Edge 1        | 580   | 820.5          | 18.5             | 18.5  | 0.621          | 0.621  | 0.305           | 0.305  |             |
|                     |         |               | Edge 2        | 580   | 820.5          | 18.5             | 18.5  | 0.089          | 0.089  | 0.048           | 0.048  |             |
|                     |         |               | Edge 3        | 580   | 820.5          | 18.5             | 18.5  | 0.009          | 0.009  | 0.005           | 0.005  |             |
| 1xRTT<br>(RC3 SO32) | D       | 0             | Rear          | 476   | 817.9          | 17.2             | 16.8  | 1.020          | 1.118  | 0.500           | 0.548  | 8           |
|                     |         |               |               | 580   | 820.5          | 17.2             | 17.0  | 1.030          | 1.079  | 0.507           | 0.531  |             |
|                     |         |               |               | 670   | 822.8          | 17.2             | 17.0  | 1.040          | 1.089  | 0.510           | 0.534  |             |
|                     |         |               | Edge 1        | 580   | 820.5          | 17.2             | 17.0  | 0.685          | 0.717  | 0.322           | 0.337  |             |
|                     |         |               | Edge 3        | 580   | 820.5          | 17.2             | 17.0  | 0.010          | 0.010  | 0.006           | 0.006  |             |
|                     |         |               | Edge 4        | 580   | 820.5          | 17.2             | 17.0  | 0.056          | 0.059  | 0.032           | 0.033  |             |
| 1xEVDO<br>(Rel. 0)  | D       | 0             | Rear          | 476   | 817.9          | 17.2             | 17.0  | 1.050          | 1.099  | 0.526           | 0.551  |             |
|                     |         |               |               | 580   | 820.5          | 17.2             | 16.9  | 1.000          | 1.072  | 0.507           | 0.543  |             |
|                     |         |               |               | 670   | 822.8          | 17.2             | 17.0  | 0.988          | 1.035  | 0.501           | 0.525  |             |
|                     |         |               | Edge 1        | 580   | 820.5          | 17.2             | 16.9  | 0.682          | 0.731  | 0.319           | 0.342  |             |
|                     |         |               | Edge 3        | 580   | 820.5          | 17.2             | 16.9  | 0.011          | 0.012  | 0.007           | 0.007  |             |
|                     |         |               | Edge 4        | 580   | 820.5          | 17.2             | 16.9  | 0.052          | 0.056  | 0.030           | 0.032  |             |

**Note(s):**

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.

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

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

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

| Mode | Antenna | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------|---------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|      |         |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| QPSK | C       | 0          | Rear          | 20050 | 1720.0      | 1             | 49        | 13.0          | 13.0  | 1.070          | 1.070  | 0.482           | 0.482  |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 12.9  | 1.030          | 1.054  | 0.465           | 0.476  |          |
|      |         |            |               |       |             | 100           | 0         | 13.0          | 13.0  | 1.050          | 1.050  | 0.478           | 0.478  |          |
|      |         |            |               | 20175 | 1732.5      | 1             | 49        | 13.0          | 12.9  | 1.070          | 1.095  | 0.482           | 0.493  |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 13.0  | 1.090          | 1.090  | 0.489           | 0.489  |          |
|      |         |            |               |       |             | 1             | 49        | 13.0          | 12.9  | 1.080          | 1.105  | 0.485           | 0.496  |          |
|      |         |            | Edge 1        | 20300 | 1745.0      | 50            | 24        | 13.0          | 13.0  | 1.110          | 1.110  | 0.496           | 0.496  |          |
|      |         |            |               |       |             | 1             | 49        | 13.0          | 12.9  | 0.541          | 0.554  | 0.268           | 0.274  |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 13.0  | 0.536          | 0.536  | 0.264           | 0.264  |          |
|      |         |            |               | 20175 | 1732.5      | 1             | 49        | 13.0          | 12.9  | 0.051          | 0.052  | 0.026           | 0.027  |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 13.0  | 0.052          | 0.052  | 0.026           | 0.026  |          |
|      |         |            |               |       |             | 1             | 49        | 13.0          | 12.9  | -              | -      | -               | -      |          |
| QPSK | D       | 0          | Rear          | 20175 | 1732.5      | 50            | 24        | 13.0          | 13.0  | -              | -      | -               | -      |          |
|      |         |            |               |       |             | 1             | 49        | 13.0          | 13.0  | -              | -      | -               | -      |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 13.0  | -              | -      | -               | -      |          |
|      |         |            |               | 20050 | 1720.0      | 1             | 49        | 13.7          | 13.3  | 0.953          | 1.045  | 0.443           | 0.486  |          |
|      |         |            |               |       |             | 50            | 24        | 13.7          | 13.3  | 0.973          | 1.067  | 0.451           | 0.495  |          |
|      |         |            |               |       |             | 1             | 49        | 13.7          | 13.2  | 0.976          | 1.095  | 0.445           | 0.499  |          |
|      |         |            | Edge 1        | 20175 | 1732.5      | 50            | 24        | 13.7          | 13.3  | 0.980          | 1.075  | 0.452           | 0.496  |          |
|      |         |            |               |       |             | 100           | 0         | 13.7          | 13.3  | 0.989          | 1.084  | 0.452           | 0.496  |          |
|      |         |            |               |       |             | 1             | 49        | 13.7          | 13.3  | 1.020          | 1.118  | 0.465           | 0.510  | 9        |
|      |         |            |               | 20300 | 1745.0      | 50            | 24        | 13.7          | 13.3  | 0.970          | 1.064  | 0.445           | 0.488  |          |
|      |         |            |               |       |             | 1             | 49        | 13.7          | 13.2  | 0.534          | 0.599  | 0.260           | 0.292  |          |
|      |         |            |               |       |             | 50            | 24        | 13.7          | 13.3  | 0.541          | 0.593  | 0.261           | 0.286  |          |
| QPSK | D       | 0          | Edge 3        | 20175 | 1732.5      | 1             | 49        | 13.7          | 13.2  | -              | -      | -               | -      |          |
|      |         |            |               |       |             | 50            | 24        | 13.7          | 13.3  | -              | -      | -               | -      |          |
|      |         |            |               |       |             | 1             | 49        | 13.7          | 13.2  | -              | -      | -               | -      |          |
|      |         |            | Edge 4        | 20175 | 1732.5      | 50            | 24        | 13.7          | 13.3  | 0.068          | 0.076  | 0.033           | 0.037  |          |
|      |         |            |               |       |             | 1             | 49        | 13.7          | 13.2  | 0.068          | 0.076  | 0.033           | 0.037  |          |
|      |         |            |               |       |             | 50            | 24        | 13.7          | 13.3  | 0.068          | 0.075  | 0.033           | 0.036  |          |

#### Note(s):

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- SAR values represented by "-" indicate no SAR peaks were detected during area scans.
- For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

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

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

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

| Mode | Antenna | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------|---------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|      |         |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| QPSK | C       | 0          | Rear          | 20850 | 2510.0      | 1             | 49        | 13.0          | 12.5  | 0.920          | 1.032  | 0.379           | 0.425  |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 12.5  | 0.934          | 1.048  | 0.384           | 0.431  |          |
|      |         |            |               | 21100 | 2535.0      | 1             | 49        | 13.0          | 12.4  | 0.889          | 1.021  | 0.361           | 0.414  |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 12.4  | 0.889          | 1.021  | 0.360           | 0.413  |          |
|      |         |            |               |       |             | 100           | 0         | 13.0          | 12.5  | 0.899          | 1.009  | 0.363           | 0.407  |          |
|      |         |            |               | 21350 | 2560.0      | 1             | 49        | 13.0          | 12.4  | 0.895          | 1.028  | 0.356           | 0.409  |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 12.5  | 0.905          | 1.015  | 0.361           | 0.405  |          |
|      |         |            | Edge 1        | 20850 | 2510.0      | 1             | 49        | 13.0          | 12.5  | 0.746          | 0.837  | 0.271           | 0.304  |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 12.5  | 0.762          | 0.855  | 0.275           | 0.309  |          |
|      |         |            |               | 21100 | 2535.0      | 1             | 49        | 13.0          | 12.4  | 0.713          | 0.819  | 0.259           | 0.297  |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 12.4  | 0.708          | 0.813  | 0.256           | 0.294  |          |
|      |         |            |               |       |             | 100           | 0         | 13.0          | 12.5  | 0.719          | 0.807  | 0.260           | 0.292  |          |
|      |         |            |               | 21350 | 2560.0      | 1             | 49        | 13.0          | 12.4  | 0.702          | 0.806  | 0.253           | 0.290  |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 12.5  | 0.716          | 0.803  | 0.258           | 0.289  |          |
|      |         |            | Edge 2        | 21100 | 2535.0      | 1             | 49        | 13.0          | 12.4  | 0.051          | 0.059  | 0.022           | 0.025  |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 12.4  | 0.052          | 0.060  | 0.022           | 0.025  |          |
|      |         |            | Edge 3        | 21100 | 2535.0      | 1             | 49        | 13.0          | 12.4  | -              | -      | -               | -      |          |
|      |         |            |               |       |             | 50            | 24        | 13.0          | 12.4  | -              | -      | -               | -      |          |
| QPSK | D       | 0          | Rear          | 20850 | 2510.0      | 1             | 49        | 13.7          | 13.3  | 0.994          | 1.090  | 0.390           | 0.428  |          |
|      |         |            |               |       |             | 50            | 24        | 13.7          | 13.3  | 0.992          | 1.088  | 0.390           | 0.428  |          |
|      |         |            |               | 21100 | 2535.0      | 1             | 49        | 13.7          | 13.3  | 1.010          | 1.107  | 0.387           | 0.424  |          |
|      |         |            |               |       |             | 50            | 24        | 13.7          | 13.3  | 1.050          | 1.151  | 0.398           | 0.436  | 10       |
|      |         |            |               |       |             | 100           | 0         | 13.7          | 13.3  | 1.010          | 1.107  | 0.387           | 0.424  |          |
|      |         |            |               | 21350 | 2560.0      | 1             | 49        | 13.7          | 13.2  | 0.960          | 1.077  | 0.364           | 0.408  |          |
|      |         |            |               |       |             | 50            | 24        | 13.7          | 13.3  | 0.972          | 1.066  | 0.369           | 0.405  |          |
|      |         |            | Edge 1        | 20850 | 2510.0      | 1             | 49        | 13.7          | 13.3  | 0.860          | 0.943  | 0.310           | 0.340  |          |
|      |         |            |               |       |             | 50            | 24        | 13.7          | 13.3  | 0.829          | 0.909  | 0.298           | 0.327  |          |
|      |         |            |               | 21100 | 2535.0      | 1             | 49        | 13.7          | 13.3  | 0.791          | 0.867  | 0.284           | 0.311  |          |
|      |         |            |               |       |             | 50            | 24        | 13.7          | 13.3  | 0.803          | 0.880  | 0.288           | 0.316  |          |
|      |         |            |               |       |             | 100           | 0         | 13.7          | 13.3  | 0.836          | 0.917  | 0.299           | 0.328  |          |
|      |         |            |               | 21350 | 2560.0      | 1             | 49        | 13.7          | 13.2  | 0.835          | 0.937  | 0.299           | 0.335  |          |
|      |         |            |               |       |             | 50            | 24        | 13.7          | 13.3  | 0.855          | 0.937  | 0.307           | 0.337  |          |
|      |         |            | Edge 3        | 21100 | 2535.0      | 1             | 49        | 13.7          | 13.3  | -              | -      | -               | -      |          |
|      |         |            |               |       |             | 50            | 24        | 13.7          | 13.3  | -              | -      | -               | -      |          |
|      |         |            | Edge 4        | 21100 | 2535.0      | 1             | 49        | 13.7          | 13.3  | 0.041          | 0.045  | 0.019           | 0.021  |          |
|      |         |            |               |       |             | 50            | 24        | 13.7          | 13.3  | 0.043          | 0.047  | 0.019           | 0.020  |          |

**Note(s):**

1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate no SAR peaks were detected during area scans.
3. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

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

| Mode | Antenna | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------|---------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|      |         |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| QPSK | C       | 0          | Rear          | 23095 | 707.5       | 1             | 24        | 20.2          | 20.2  | 0.945          | 0.945  | 0.476           | 0.476  |          |
|      |         |            |               |       |             | 25            | 12        | 20.2          | 20.2  | 0.852          | 0.852  | 0.404           | 0.404  |          |
|      |         |            |               |       |             | 50            | 0         | 20.2          | 20.2  | 0.990          | 0.990  | 0.497           | 0.497  |          |
|      |         |            | Edge 1        | 23095 | 707.5       | 1             | 24        | 20.2          | 20.2  | 0.771          | 0.771  | 0.391           | 0.391  |          |
|      |         |            |               |       |             | 25            | 12        | 20.2          | 20.2  | 0.765          | 0.765  | 0.399           | 0.399  |          |
|      |         |            | Edge 2        | 23095 | 707.5       | 1             | 24        | 20.2          | 20.2  | 0.080          | 0.080  | 0.045           | 0.045  |          |
|      |         |            |               |       |             | 25            | 12        | 20.2          | 20.2  | 0.072          | 0.072  | 0.041           | 0.041  |          |
|      |         |            | Edge 3        | 23095 | 707.5       | 1             | 24        | 20.2          | 20.2  | 0.009          | 0.009  | 0.005           | 0.005  |          |
|      |         |            |               |       |             | 25            | 12        | 20.2          | 20.2  | 0.009          | 0.009  | 0.006           | 0.006  |          |
| QPSK | D       | 0          | Rear          | 23095 | 707.5       | 1             | 24        | 18.0          | 18.0  | 1.170          | 1.170  | 0.576           | 0.576  |          |
|      |         |            |               |       |             | 25            | 12        | 18.0          | 18.0  | 1.190          | 1.190  | 0.579           | 0.579  |          |
|      |         |            |               |       |             | 50            | 0         | 18.0          | 18.0  | 1.190          | 1.190  | 0.584           | 0.584  | 11       |
|      |         |            | Edge 1        | 23095 | 707.5       | 1             | 24        | 18.0          | 18.0  | 0.896          | 0.896  | 0.434           | 0.434  |          |
|      |         |            |               |       |             | 25            | 12        | 18.0          | 18.0  | 0.916          | 0.916  | 0.439           | 0.439  |          |
|      |         |            |               |       |             | 50            | 0         | 18.0          | 18.0  | 0.921          | 0.921  | 0.442           | 0.442  |          |
|      |         |            | Edge 3        | 23095 | 707.5       | 1             | 24        | 18.0          | 18.0  | 0.021          | 0.021  | 0.011           | 0.011  |          |
|      |         |            |               |       |             | 25            | 12        | 18.0          | 18.0  | 0.021          | 0.021  | 0.011           | 0.011  |          |
|      |         |            | Edge 4        | 23095 | 707.5       | 1             | 24        | 18.0          | 18.0  | 0.092          | 0.092  | 0.048           | 0.048  |          |
|      |         |            |               |       |             | 25            | 12        | 18.0          | 18.0  | 0.092          | 0.092  | 0.048           | 0.048  |          |

**Note(s):**

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

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

| Mode | Antenna | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------|---------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|      |         |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| QPSK | C       | 0          | Rear          | 23230 | 782.0       | 1             | 24        | 19.2          | 19.2  | 0.923          | 0.923  | 0.463           | 0.463  |          |
|      |         |            |               |       |             | 25            | 12        | 19.2          | 19.2  | 0.959          | 0.959  | 0.479           | 0.479  |          |
|      |         |            |               |       |             | 50            | 0         | 19.2          | 19.2  | 0.945          | 0.945  | 0.467           | 0.467  |          |
|      |         |            | Edge 1        | 23230 | 782.0       | 1             | 24        | 19.2          | 19.2  | 0.694          | 0.694  | 0.326           | 0.326  |          |
|      |         |            |               |       |             | 25            | 12        | 19.2          | 19.2  | 0.721          | 0.721  | 0.338           | 0.338  |          |
|      |         |            | Edge 2        | 23230 | 782.0       | 1             | 24        | 19.2          | 19.2  | 0.093          | 0.093  | 0.049           | 0.049  |          |
|      |         |            |               |       |             | 25            | 12        | 19.2          | 19.2  | 0.096          | 0.096  | 0.051           | 0.051  |          |
|      |         |            | Edge 3        | 23230 | 782.0       | 1             | 24        | 19.2          | 19.2  | 0.017          | 0.017  | 0.009           | 0.009  |          |
|      |         |            |               |       |             | 25            | 12        | 19.2          | 19.2  | 0.017          | 0.017  | 0.009           | 0.009  |          |
| QPSK | D       | 0          | Rear          | 23230 | 782.0       | 1             | 24        | 18.0          | 18.0  | 1.040          | 1.040  | 0.524           | 0.524  |          |
|      |         |            |               |       |             | 25            | 12        | 18.0          | 18.0  | 1.090          | 1.090  | 0.564           | 0.564  |          |
|      |         |            |               |       |             | 50            | 0         | 18.0          | 18.0  | 1.100          | 1.100  | 0.572           | 0.572  | 12       |
|      |         |            | Edge 1        | 23230 | 782.0       | 1             | 24        | 18.0          | 18.0  | 0.879          | 0.879  | 0.421           | 0.421  |          |
|      |         |            |               |       |             | 25            | 12        | 18.0          | 18.0  | 0.910          | 0.910  | 0.434           | 0.434  |          |
|      |         |            |               |       |             | 50            | 0         | 18.0          | 18.0  | 0.921          | 0.921  | 0.440           | 0.440  |          |
|      |         |            | Edge 3        | 23230 | 782.0       | 1             | 24        | 18.0          | 18.0  | 0.018          | 0.018  | 0.009           | 0.009  |          |
|      |         |            |               |       |             | 25            | 12        | 18.0          | 18.0  | 0.019          | 0.019  | 0.010           | 0.010  |          |
|      |         |            | Edge 4        | 23230 | 782.0       | 1             | 24        | 18.0          | 18.0  | 0.062          | 0.062  | 0.033           | 0.033  |          |
|      |         |            |               |       |             | 25            | 12        | 18.0          | 18.0  | 0.063          | 0.063  | 0.032           | 0.032  |          |

**Note(s):**

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

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

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

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

| Mode | Antenna | Dist.<br>(mm) | Test<br>Position | Ch #. | Freq.<br>(MHz) | RB<br>Allocation | RB<br>offset | Power (dBm)      |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot<br>No. |
|------|---------|---------------|------------------|-------|----------------|------------------|--------------|------------------|-------|----------------|--------|-----------------|--------|-------------|
|      |         |               |                  |       |                |                  |              | Tune-up<br>limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |             |
| QPSK | C       | 0             | Rear             | 26140 | 1860.0         | 1                | 49           | 12.6             | 12.3  | 0.866          | 0.928  | 0.394           | 0.422  |             |
|      |         |               |                  |       |                | 50               | 24           | 12.6             | 12.3  | 0.881          | 0.944  | 0.398           | 0.426  |             |
|      |         |               |                  | 26365 | 1882.5         | 1                | 49           | 12.6             | 12.3  | 0.898          | 0.962  | 0.407           | 0.436  |             |
|      |         |               |                  |       |                | 50               | 24           | 12.6             | 12.3  | 0.912          | 0.977  | 0.410           | 0.439  |             |
|      |         |               |                  |       |                | 100              | 0            | 12.6             | 12.3  | 0.943          | 1.010  | 0.422           | 0.452  |             |
|      |         |               |                  | 26590 | 1905.0         | 1                | 49           | 12.6             | 12.2  | 0.876          | 0.961  | 0.395           | 0.433  |             |
|      |         |               | 50               |       |                | 24               | 12.6         | 12.3             | 0.953 | 1.021          | 0.426  | 0.456           |        |             |
|      |         |               | Edge 1           | 26365 | 1882.5         | 1                | 49           | 12.6             | 12.3  | 0.450          | 0.482  | 0.213           | 0.228  |             |
|      |         |               |                  |       |                | 50               | 24           | 12.6             | 12.3  | 0.452          | 0.484  | 0.215           | 0.230  |             |
|      |         |               | Edge 2           | 26365 | 1882.5         | 1                | 49           | 12.6             | 12.3  | 0.087          | 0.093  | 0.041           | 0.044  |             |
|      |         |               |                  |       |                | 50               | 24           | 12.6             | 12.3  | 0.087          | 0.093  | 0.042           | 0.045  |             |
|      |         |               | Edge 3           | 26365 | 1882.5         | 1                | 49           | 12.6             | 12.3  | -              | -      | -               | -      |             |
|      |         |               |                  |       |                | 50               | 24           | 12.6             | 12.3  | -              | -      | -               | -      |             |
| QPSK | D       | 0             | Rear             | 26140 | 1860.0         | 1                | 49           | 14.2             | 14.0  | 0.953          | 0.998  | 0.435           | 0.456  |             |
|      |         |               |                  |       |                | 50               | 24           | 14.2             | 14.0  | 0.966          | 1.012  | 0.441           | 0.462  |             |
|      |         |               |                  | 26365 | 1882.5         | 1                | 49           | 14.2             | 13.9  | 0.980          | 1.050  | 0.442           | 0.474  |             |
|      |         |               |                  |       |                | 50               | 24           | 14.2             | 14.0  | 0.985          | 1.031  | 0.447           | 0.468  |             |
|      |         |               |                  |       |                | 100              | 0            | 14.2             | 14.0  | 0.969          | 1.015  | 0.439           | 0.460  |             |
|      |         |               |                  | 26590 | 1905.0         | 1                | 49           | 14.2             | 14.0  | 0.986          | 1.032  | 0.444           | 0.465  |             |
|      |         |               | 50               |       |                | 24               | 14.2         | 14.0             | 1.010 | 1.058          | 0.450  | 0.471           | 13     |             |
|      |         |               | Edge 1           | 26365 | 1882.5         | 1                | 49           | 14.2             | 13.9  | 0.488          | 0.523  | 0.231           | 0.248  |             |
|      |         |               |                  |       |                | 50               | 24           | 14.2             | 14.0  | 0.499          | 0.523  | 0.236           | 0.247  |             |
|      |         |               | Edge 3           | 26365 | 1882.5         | 1                | 49           | 14.2             | 13.9  | -              | -      | -               | -      |             |
|      |         |               |                  |       |                | 50               | 24           | 14.2             | 14.0  | -              | -      | -               | -      |             |
|      |         |               | Edge 4           | 26365 | 1882.5         | 1                | 49           | 14.2             | 13.9  | 0.047          | 0.050  | 0.022           | 0.024  |             |
|      |         |               |                  |       |                | 50               | 24           | 14.2             | 14.0  | 0.048          | 0.051  | 0.024           | 0.025  |             |

#### Note(s):

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- SAR values represented by "-" indicate no SAR peaks were detected during area scans.
- For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

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

| Mode | Antenna | Dist.<br>(mm) | Test<br>Position | Ch #. | Freq.<br>(MHz) | RB<br>Allocation | RB<br>offset | Power (dBm)      |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot<br>No. |
|------|---------|---------------|------------------|-------|----------------|------------------|--------------|------------------|-------|----------------|--------|-----------------|--------|-------------|
|      |         |               |                  |       |                |                  |              | Tune-up<br>limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |             |
| QPSK | C       | 0             | Rear             | 26765 | 821.5          | 1                | 24           | 18.8             | 18.4  | 0.840          | 0.921  | 0.430           | 0.471  |             |
|      |         |               |                  |       |                | 25               | 12           | 18.8             | 18.5  | 0.857          | 0.918  | 0.438           | 0.469  |             |
|      |         |               |                  | 26865 | 831.5          | 1                | 24           | 18.8             | 18.4  | 0.827          | 0.907  | 0.422           | 0.463  |             |
|      |         |               |                  |       |                | 25               | 12           | 18.8             | 18.4  | 0.808          | 0.886  | 0.412           | 0.452  |             |
|      |         |               |                  | 26965 | 841.5          | 1                | 24           | 18.8             | 18.5  | 0.794          | 0.851  | 0.405           | 0.434  |             |
|      |         |               |                  |       |                | 25               | 12           | 18.8             | 18.5  | 0.814          | 0.872  | 0.413           | 0.443  |             |
|      |         |               | Edge 1           | 26865 | 831.5          | 50               | 0            | 18.8             | 18.5  | 0.812          | 0.870  | 0.413           | 0.443  |             |
|      |         |               |                  |       |                | 1                | 24           | 18.8             | 18.4  | 0.639          | 0.701  | 0.306           | 0.336  |             |
|      |         |               |                  | 26865 | 831.5          | 25               | 12           | 18.8             | 18.4  | 0.630          | 0.691  | 0.297           | 0.326  |             |
|      |         |               |                  |       |                | 1                | 24           | 18.8             | 18.4  | 0.104          | 0.114  | 0.055           | 0.060  |             |
|      |         |               | Edge 2           | 26865 | 831.5          | 25               | 12           | 18.8             | 18.4  | 0.103          | 0.113  | 0.055           | 0.060  |             |
|      |         |               |                  |       |                | 1                | 24           | 18.8             | 18.4  | 0.013          | 0.014  | 0.007           | 0.008  |             |
|      |         |               | Edge 3           | 26865 | 831.5          | 25               | 12           | 18.8             | 18.4  | 0.015          | 0.016  | 0.009           | 0.010  |             |
|      |         |               |                  |       |                |                  |              |                  |       |                |        |                 |        |             |
| QPSK | D       | 0             | Rear             | 26765 | 821.5          | 1                | 24           | 18.5             | 18.3  | 0.739          | 0.774  | 0.355           | 0.372  |             |
|      |         |               |                  |       |                | 25               | 12           | 18.5             | 18.3  | 0.706          | 0.739  | 0.347           | 0.363  |             |
|      |         |               |                  | 26865 | 831.5          | 1                | 24           | 18.5             | 18.3  | 0.733          | 0.768  | 0.350           | 0.366  |             |
|      |         |               |                  |       |                | 25               | 12           | 18.5             | 18.3  | 0.820          | 0.859  | 0.421           | 0.441  |             |
|      |         |               |                  | 26965 | 841.5          | 50               | 0            | 18.5             | 18.3  | 0.828          | 0.867  | 0.426           | 0.446  |             |
|      |         |               |                  |       |                | 1                | 24           | 18.5             | 18.2  | 0.859          | 0.920  | 0.446           | 0.478  |             |
|      |         |               | Edge 1           | 26865 | 831.5          | 25               | 12           | 18.5             | 18.3  | 0.891          | 0.933  | 0.460           | 0.482  | 14          |
|      |         |               |                  |       |                | 1                | 24           | 18.5             | 18.3  | 0.549          | 0.575  | 0.263           | 0.275  |             |
|      |         |               |                  | 26865 | 831.5          | 25               | 12           | 18.5             | 18.3  | 0.564          | 0.591  | 0.270           | 0.283  |             |
|      |         |               |                  |       |                | 1                | 24           | 18.5             | 18.3  | 0.016          | 0.017  | 0.010           | 0.010  |             |
|      |         |               | Edge 3           | 26865 | 831.5          | 25               | 12           | 18.5             | 18.3  | 0.017          | 0.017  | 0.010           | 0.010  |             |
|      |         |               |                  |       |                | 1                | 24           | 18.5             | 18.3  | 0.115          | 0.120  | 0.065           | 0.068  |             |
|      |         |               | Edge 4           | 26865 | 831.5          | 25               | 12           | 18.5             | 18.3  | 0.117          | 0.123  | 0.066           | 0.069  |             |
|      |         |               |                  |       |                |                  |              |                  |       |                |        |                 |        |             |

**Note(s):**

- Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

**10.18. LTE Band 27 (10MHz Bandwidth)**

SAR for LTE Band 27 (Frequency range: 814 – 824 MHz) is covered by LTE Band 26 (Frequency range: 814 – 849 MHz) due to overlapping frequency range, same or lower maximum tune-up limit and same channel bandwidth.

**10.19. LTE Band 30 (10MHz Bandwidth)**

| Mode | Antenna | Dist. (mm) | Test Position | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Power (dBm)   |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------|---------|------------|---------------|-------|-------------|---------------|-----------|---------------|-------|----------------|--------|-----------------|--------|----------|
|      |         |            |               |       |             |               |           | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| QPSK | C       | 0          | Rear          | 27710 | 2310.0      | 1             | 24        | 13.5          | 13.5  | 1.130          | 1.130  | 0.435           | 0.435  | 15       |
|      |         |            |               |       |             | 25            | 12        | 13.5          | 13.5  | 1.110          | 1.110  | 0.428           | 0.428  |          |
|      |         |            |               |       |             | 50            | 0         | 13.5          | 13.5  | 1.120          | 1.120  | 0.432           | 0.432  |          |
|      |         |            | Edge 1        | 27710 | 2310.0      | 1             | 24        | 13.5          | 13.5  | 0.811          | 0.811  | 0.297           | 0.297  |          |
|      |         |            |               |       |             | 25            | 12        | 13.5          | 13.5  | 0.799          | 0.799  | 0.293           | 0.293  |          |
|      |         |            |               |       |             | 50            | 0         | 13.5          | 13.5  | 0.804          | 0.804  | 0.294           | 0.294  |          |
|      |         |            | Edge 2        | 27710 | 2310.0      | 1             | 24        | 13.5          | 13.5  | 0.101          | 0.101  | 0.045           | 0.045  |          |
|      |         |            |               |       |             | 25            | 12        | 13.5          | 13.5  | 0.108          | 0.108  | 0.049           | 0.049  |          |
|      |         |            | Edge 3        | 27710 | 2310.0      | 1             | 24        | 13.5          | 13.5  | -              | -      | -               | -      |          |
|      |         |            |               |       |             | 25            | 12        | 13.5          | 13.5  | -              | -      | -               | -      |          |
| QPSK | D       | 0          | Rear          | 27710 | 2310.0      | 1             | 24        | 12.8          | 12.8  | 1.110          | 1.110  | 0.473           | 0.473  |          |
|      |         |            |               |       |             | 25            | 12        | 12.8          | 12.7  | 1.030          | 1.054  | 0.438           | 0.448  |          |
|      |         |            |               |       |             | 50            | 0         | 12.8          | 12.8  | 1.040          | 1.040  | 0.445           | 0.445  |          |
|      |         |            | Edge 1        | 27710 | 2310.0      | 1             | 24        | 12.8          | 12.8  | 0.842          | 0.842  | 0.316           | 0.316  |          |
|      |         |            |               |       |             | 25            | 12        | 12.8          | 12.7  | 0.818          | 0.837  | 0.306           | 0.313  |          |
|      |         |            |               |       |             | 50            | 0         | 12.8          | 12.8  | 0.828          | 0.828  | 0.310           | 0.310  |          |
|      |         |            | Edge 3        | 27710 | 2310.0      | 1             | 24        | 12.8          | 12.8  | -              | -      | -               | -      |          |
|      |         |            |               |       |             | 25            | 12        | 12.8          | 12.7  | -              | -      | -               | -      |          |
|      |         |            | Edge 4        | 27710 | 2310.0      | 1             | 24        | 12.8          | 12.8  | 0.078          | 0.078  | 0.033           | 0.033  |          |
|      |         |            |               |       |             | 25            | 12        | 12.8          | 12.7  | 0.070          | 0.072  | 0.029           | 0.030  |          |

**Note(s):**

1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate no SAR peaks were detected during area scans.
3. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

**10.20. LTE Band 41 (20MHz Bandwidth)**

| Mode   | Antenna | Dist.<br>(mm) | Test<br>Position | Ch #. | Freq.<br>(MHz) | RB<br>Allocation | RB<br>offset | Power (dBm)      |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot<br>No. |
|--------|---------|---------------|------------------|-------|----------------|------------------|--------------|------------------|-------|----------------|--------|-----------------|--------|-------------|
|        |         |               |                  |       |                |                  |              | Tune-up<br>limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |             |
| QPSK   | C       | 0             | Rear             | 39750 | 2506.0         | 1                | 49           | 14.7             | 14.1  | 0.974          | 1.118  | 0.383           | 0.440  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.7             | 14.2  | 0.983          | 1.103  | 0.386           | 0.433  |             |
|        |         |               |                  | 40185 | 2549.5         | 1                | 49           | 14.7             | 14.1  | 1.000          | 1.148  | 0.383           | 0.440  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.7             | 14.1  | 1.010          | 1.160  | 0.385           | 0.442  |             |
|        |         |               |                  |       |                | 100              | 0            | 14.7             | 14.2  | 1.010          | 1.133  | 0.386           | 0.433  |             |
|        |         |               |                  | 40620 | 2593.0         | 1                | 49           | 14.7             | 14.2  | 0.949          | 1.065  | 0.350           | 0.393  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.7             | 14.1  | 0.965          | 1.108  | 0.356           | 0.409  |             |
|        |         |               |                  | 41055 | 2636.5         | 1                | 49           | 14.7             | 14.1  | 0.937          | 1.076  | 0.337           | 0.387  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.7             | 14.2  | 0.967          | 1.085  | 0.347           | 0.389  |             |
|        |         |               |                  | 41490 | 2680.0         | 1                | 49           | 14.7             | 14.1  | 0.920          | 1.056  | 0.325           | 0.373  |             |
|        |         |               | 50               |       |                | 24               | 14.7         | 14.2             | 0.923 | 1.036          | 0.327  | 0.367           |        |             |
|        |         |               | Edge 1           | 40620 | 2593.0         | 1                | 49           | 14.7             | 14.2  | 0.674          | 0.756  | 0.236           | 0.265  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.7             | 14.1  | 0.685          | 0.786  | 0.238           | 0.273  |             |
|        |         |               | Edge 2           | 40620 | 2593.0         | 1                | 49           | 14.7             | 14.2  | 0.041          | 0.046  | 0.017           | 0.019  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.7             | 14.1  | 0.044          | 0.051  | 0.018           | 0.021  |             |
|        |         |               | Edge 3           | 40620 | 2593.0         | 1                | 49           | 14.7             | 14.2  | -              | -      | -               | -      |             |
| 50     | 24      | 14.7          |                  |       |                | 14.1             | -            | -                | -     | -              |        |                 |        |             |
| QPSK   | D       | 0             | Rear             | 39750 | 2506.0         | 1                | 49           | 14.5             | 14.5  | 0.862          | 0.862  | 0.346           | 0.346  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.5             | 14.5  | 0.873          | 0.873  | 0.350           | 0.350  |             |
|        |         |               |                  | 40185 | 2549.5         | 1                | 49           | 14.5             | 14.5  | 0.894          | 0.894  | 0.351           | 0.351  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.5             | 14.5  | 0.907          | 0.907  | 0.355           | 0.355  |             |
|        |         |               |                  | 40620 | 2593.0         | 1                | 49           | 14.5             | 14.5  | 0.837          | 0.837  | 0.339           | 0.339  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.5             | 14.5  | 0.882          | 0.882  | 0.337           | 0.337  |             |
|        |         |               |                  |       |                | 100              | 0            | 14.5             | 14.5  | 0.859          | 0.859  | 0.347           | 0.347  |             |
|        |         |               |                  | 41055 | 2636.5         | 1                | 49           | 14.5             | 14.5  | 0.847          | 0.847  | 0.316           | 0.316  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.5             | 14.5  | 0.869          | 0.869  | 0.325           | 0.325  |             |
|        |         |               |                  | 41490 | 2680.0         | 1                | 49           | 14.5             | 14.5  | 1.170          | 1.170  | 0.471           | 0.471  | 16          |
|        |         |               | 50               |       |                | 24               | 14.5         | 14.5             | 1.050 | 1.050          | 0.433  | 0.433           |        |             |
|        |         |               | Edge 1           | 39750 | 2506.0         | 1                | 49           | 14.5             | 14.5  | 0.746          | 0.746  | 0.269           | 0.269  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.5             | 14.5  | 0.755          | 0.755  | 0.272           | 0.272  |             |
|        |         |               |                  | 40185 | 2549.5         | 1                | 49           | 14.5             | 14.5  | 0.750          | 0.750  | 0.269           | 0.269  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.5             | 14.5  | 0.768          | 0.768  | 0.275           | 0.275  |             |
|        |         |               |                  | 40620 | 2593.0         | 1                | 49           | 14.5             | 14.5  | 0.738          | 0.738  | 0.262           | 0.262  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.5             | 14.5  | 0.750          | 0.750  | 0.267           | 0.267  |             |
|        |         |               |                  |       |                | 100              | 0            | 14.5             | 14.5  | 0.779          | 0.779  | 0.278           | 0.278  |             |
|        |         |               |                  | 41055 | 2636.5         | 1                | 49           | 14.5             | 14.5  | 0.728          | 0.728  | 0.257           | 0.257  |             |
|        |         |               |                  |       |                | 50               | 24           | 14.5             | 14.5  | 0.758          | 0.758  | 0.265           | 0.265  |             |
|        |         |               |                  | 41490 | 2680.0         | 1                | 49           | 14.5             | 14.5  | 0.915          | 0.915  | 0.312           | 0.312  |             |
|        |         |               | 50               |       |                | 24               | 14.5         | 14.5             | 0.866 | 0.866          | 0.296  | 0.296           |        |             |
| Edge 3 | 40620   | 2593.0        | 1                | 49    | 14.5           | 14.5             | -            | -                | -     | -              |        |                 |        |             |
|        |         |               | 50               | 24    | 14.5           | 14.5             | -            | -                | -     | -              |        |                 |        |             |
| Edge 4 | 40620   | 2593.0        | 1                | 49    | 14.5           | 14.5             | 0.059        | 0.059            | 0.022 | 0.022          |        |                 |        |             |
|        |         |               | 50               | 24    | 14.5           | 14.5             | 0.059        | 0.059            | 0.022 | 0.022          |        |                 |        |             |

**Note(s):**

1. Edge 3 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
2. SAR values represented by "-" indicate no SAR peaks were detected during area scans.
3. For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

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

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | PCC   |             |               |           | SCC   |             |               |           | Power (dBm) |               |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|-------|-------------|---------------|-----------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Ch #. | Freq. (MHz) | RB Allocation | RB offset | MPR         | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| QPSK                   | C    | 0          | Rear          | 20850 | 2510.0      | 50            | 24        | 21048 | 2529.8      | 1             | 49        | 0           | 11.0          | 11.0  | 0.669          | 0.669  | 0.267           | 0.267  | 17       |
| QPSK                   | D    | 0          | Rear          | 21100 | 2535.0      | 50            | 24        | 20902 | 2515.2      | 1             | 49        | 0           | 11.2          | 11.2  | 0.651          | 0.651  | 0.262           | 0.262  |          |

**Notes:**

- From FCC PAG Guidance and Manufacturer KDB inquiry - Carrier Aggregation: PCC was determined and selected closest to the worst case SAR configuration from standalone reported SAR result. SCC was determined and selected closest to the next highest worst case SAR configuration from standalone SAR result. Channels utilized allow both selections to have contiguous CA. Output power was measured and verified for these test cases.
- For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

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

| RF Exposure Conditions | Mode | Dist. (mm) | Test Position | PCC   |             |               |           | SCC   |             |               |           | Power (dBm) |               |       | 1-g SAR (W/kg) |        | 10-g SAR (W/kg) |        | Plot No. |
|------------------------|------|------------|---------------|-------|-------------|---------------|-----------|-------|-------------|---------------|-----------|-------------|---------------|-------|----------------|--------|-----------------|--------|----------|
|                        |      |            |               | Ch #. | Freq. (MHz) | RB Allocation | RB offset | Ch #. | Freq. (MHz) | RB Allocation | RB offset | MPR         | Tune-up limit | Meas. | Meas.          | Scaled | Meas.           | Scaled |          |
| QPSK                   | C    | 0          | Rear          | 40185 | 2549.5      | 50            | 24        | 40383 | 2569.3      | 1             | 49        | 0           | 13.2          | 12.7  | 0.646          | 0.725  | 0.247           | 0.277  |          |
| QPSK                   | D    | 0          | Rear          | 41490 | 2680.0      | 1             | 49        | 41292 | 2660.2      | 50            | 24        | 0           | 13.5          | 13.5  | 1.060          | 1.060  | 0.445           | 0.445  | 18       |

**Notes:**

- From FCC PAG Guidance and Manufacturer KDB inquiry - Carrier Aggregation: PCC was determined and selected closest to the worst case SAR configuration from standalone reported SAR result. SCC was determined and selected closest to the next highest worst case SAR configuration from standalone SAR result. Channels utilized allow both selections to have contiguous CA. Output power was measured and verified for these test cases.
- For Reduced Power mode, MPR is never triggered regardless of channel, RB, or mode combinations.

## 10.23. Wi-Fi (DTS Band)

### Variant 1

| Band   | No. of Transmitters | Mode        | Dist. (mm) | Position | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | SAR (W/kg) |       |        |       |           |       |        |       | Plots |
|--------|---------------------|-------------|------------|----------|-------|-------------|---------------|----------|---------------|----------|------------|-------|--------|-------|-----------|-------|--------|-------|-------|
|        |                     |             |            |          |       |             | Antenna A     |          | Antenna B     |          | Antenna A  |       |        |       | Antenna B |       |        |       |       |
|        |                     |             |            |          |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured | Measured   |       | Scaled |       | Measured  |       | Scaled |       |       |
|        |                     |             |            |          |       |             | 1-g           | 10-g     | 1-g           | 10-g     | 1-g        | 10-g  | 1-g    | 10-g  | 1-g       | 10-g  |        |       |       |
| 2.4GHz | 1 Tx                | 802.11b     | 0          | Rear     | 6     | 2437        | 16.0          | 16.0     |               |          | 0.110      | 0.048 | 0.110  | 0.048 |           |       |        |       |       |
|        |                     |             |            | Edge 1   | 6     | 2437        | 16.0          | 16.0     |               |          | 0.004      | 0.001 | 0.004  | 0.001 |           |       |        |       |       |
|        |                     |             |            | Edge 3   | 6     | 2437        | 16.0          | 16.0     |               |          | 1.050      | 0.347 | 1.050  | 0.347 |           |       |        |       |       |
|        |                     |             |            |          | 11    | 2462        | 16.0          | 16.0     |               |          | 0.986      | 0.327 | 0.986  | 0.327 |           |       |        |       |       |
|        |                     |             |            | Edge 4   | 6     | 2437        | 16.0          | 16.0     |               |          | 0.019      | 0.008 | 0.019  | 0.008 |           |       |        |       |       |
| 2.4GHz | 1 Tx                | 802.11b     | 0          | Rear     | 6     | 2437        |               |          | 16.0          | 16.0     |            |       |        |       | 0.060     | 0.024 | 0.060  | 0.024 |       |
|        |                     |             |            | Edge 1   | 6     | 2437        |               |          | 16.0          | 16.0     |            |       |        |       | -         | -     | -      | -     |       |
|        |                     |             |            | Edge 2   | 6     | 2437        |               |          | 16.0          | 16.0     |            |       |        |       | 0.010     | 0.004 | 0.010  | 0.004 |       |
|        |                     |             |            | Edge 3   | 6     | 2437        |               |          | 16.0          | 16.0     |            |       |        |       | 0.875     | 0.291 | 0.875  | 0.291 |       |
|        |                     |             |            |          | 11    | 2462        |               |          | 16.0          | 16.0     |            |       |        |       | 1.170     | 0.390 | 1.170  | 0.390 | 19    |
|        |                     |             |            |          |       |             |               |          |               |          |            |       |        |       |           |       |        |       |       |
| 2.4GHz | 2 Tx                | 802.11g CDD | 0          | Rear     | 6     | 2437        | 16.0          | 16.0     | 16.0          | 16.0     | 0.060      | 0.023 | 0.060  | 0.023 | 0.090     | 0.038 | 0.090  | 0.038 |       |
|        |                     |             |            | Edge 1   | 6     | 2437        | 16.0          | 16.0     | 16.0          | 16.0     | 0.003      | 0.001 | 0.003  | 0.001 | 0.005     | 0.002 | 0.005  | 0.002 |       |
|        |                     |             |            | Edge 1   | 6     | 2437        | 16.0          | 16.0     | 16.0          | 16.0     | -          | -     | -      | -     | 0.022     | 0.008 | 0.022  | 0.008 |       |
|        |                     |             |            | Edge 3   | 6     | 2437        | 16.0          | 16.0     | 16.0          | 16.0     | 1.100      | 0.367 | 1.100  | 0.367 | 0.884     | 0.297 | 0.884  | 0.297 |       |
|        |                     |             |            |          | 10    | 2457        | 16.0          | 16.0     | 16.0          | 16.0     | 1.040      | 0.344 | 1.040  | 0.344 | 1.030     | 0.346 | 1.030  | 0.346 |       |
|        |                     |             |            | Edge 4   | 6     | 2437        | 16.0          | 16.0     | 16.0          | 16.0     | 0.023      | 0.010 | 0.023  | 0.010 | -         | -     | -      | -     |       |
|        |                     |             |            |          |       |             |               |          |               |          |            |       |        |       |           |       |        |       |       |

### Variant 2 Spot Check

| Band    | No. of Transmitters | Mode    | Dist. (mm) | Position | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | SAR (W/kg) |      |        |      |           |       |        |       | Plots |
|---------|---------------------|---------|------------|----------|-------|-------------|---------------|----------|---------------|----------|------------|------|--------|------|-----------|-------|--------|-------|-------|
|         |                     |         |            |          |       |             | Antenna A     |          | Antenna B     |          | Antenna A  |      |        |      | Antenna B |       |        |       |       |
|         |                     |         |            |          |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured | Measured   |      | Scaled |      | Measured  |       | Scaled |       |       |
|         |                     |         |            |          |       |             |               |          |               |          | 1-g        | 10-g | 1-g    | 10-g | 1-g       | 10-g  | 1-g    | 10-g  |       |
| 2.4 GHz | 1 Tx                | 802.11b | 0          | Edge 3   | 11    | 2462        |               |          | 16.0          | 15.7     |            |      |        |      | 0.963     | 0.324 | 1.032  | 0.347 |       |

#### Note(s):

- Edge 1 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- SAR values represented by "-" indicate the absence of a secondary peak within 2 dB of the maximum peak and therefore no detectable secondary zoom scan.

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

| Band    | No. of Transmitters | Mode             | Dist. (mm) | Position | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | SAR (W/kg) |       |        |       |           |       |        |       | Plots |
|---------|---------------------|------------------|------------|----------|-------|-------------|---------------|----------|---------------|----------|------------|-------|--------|-------|-----------|-------|--------|-------|-------|
|         |                     |                  |            |          |       |             | Antenna A     |          | Antenna B     |          | Antenna A  |       |        |       | Antenna B |       |        |       |       |
|         |                     |                  |            |          |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured | Measured   |       | Scaled |       | Measured  |       | Scaled |       |       |
|         |                     |                  |            |          |       |             |               |          |               |          | 1-g        | 10-g  | 1-g    | 10-g  | 1-g       | 10-g  | 1-g    | 10-g  |       |
| 5.2GHz  | 1 Tx                | 802.11n HT40     | 0          | Rear     | 46    | 5230        | 17.0          | 17.0     |               |          | 0.144      | 0.057 | 0.144  | 0.057 |           |       |        |       |       |
|         |                     |                  |            | Edge 1   | 46    | 5230        | 17.0          | 17.0     |               |          | -          | -     | -      | -     |           |       |        |       |       |
|         |                     |                  |            | Edge 3   | 38    | 5180        | 14.0          | 14.0     |               |          | 0.611      | 0.201 | 0.611  | 0.201 |           |       |        |       |       |
|         |                     |                  |            |          | 46    | 5230        | 17.0          | 17.0     |               |          | 1.170      | 0.403 | 1.170  | 0.403 |           |       |        |       |       |
|         |                     |                  |            | Edge 4   | 46    | 5230        | 17.0          | 17.0     |               |          | 0.000      | 0.000 | 0.000  | 0.000 |           |       |        |       |       |
| 5.3 GHz | 1 Tx                | 802.11n HT40     | 0          | Rear     | 54    | 5270        |               |          | 16.0          | 15.5     |            |       |        |       | 0.015     | 0.002 | 0.017  | 0.002 |       |
|         |                     |                  |            | Edge 1   | 54    | 5270        |               |          | 16.0          | 15.5     |            |       |        |       | -         | -     | -      | -     |       |
|         |                     |                  |            | Edge 2   | 54    | 5270        |               |          | 16.0          | 15.5     |            |       |        |       | -         | -     | -      | -     |       |
|         |                     |                  |            |          | 54    | 5270        |               |          | 16.0          | 15.5     |            |       |        |       | 0.955     | 0.322 | 1.072  | 0.361 |       |
|         |                     |                  |            | Edge 3   | 62    | 5310        |               |          | 14.0          | 14.0     |            |       |        |       | 0.729     | 0.222 | 0.729  | 0.222 |       |
|         |                     |                  |            |          |       |             |               |          |               |          |            |       |        |       |           |       |        |       |       |
| 5.2GHz  | 2 Tx                | 802.11n HT40 CDD | 0          | Rear     | 46    | 5230        | 17.0          | 17.0     | 16.0          | 16.0     | 0.111      | 0.038 | 0.111  | 0.038 | 0.090     | 0.036 | 0.090  | 0.036 |       |
|         |                     |                  |            | Edge 1   | 46    | 5230        | 17.0          | 17.0     | 16.0          | 16.0     | -          | -     | -      | -     | -         | -     | -      | -     |       |
|         |                     |                  |            | Edge 2   | 46    | 5230        | 17.0          | 17.0     | 16.0          | 16.0     | -          | -     | -      | -     | 0.000     | 0.000 | 0.000  | 0.000 |       |
|         |                     |                  |            |          | 38    | 5180        | 13.0          | 13.0     | 13.0          | 13.0     | 0.417      | 0.133 | 0.417  | 0.133 | 0.443     | 0.141 | 0.443  | 0.141 |       |
|         |                     |                  |            | Edge 3   | 46    | 5230        | 17.0          | 17.0     | 16.0          | 16.0     | 1.190      | 0.406 | 1.190  | 0.406 | 1.150     | 0.379 | 1.150  | 0.379 | 20    |
|         |                     |                  |            |          | 46    | 5230        | 17.0          | 17.0     | 16.0          | 16.0     | 0.005      | 0.001 | 0.005  | 0.001 | -         | -     | -      | -     |       |
|         |                     |                  |            | Edge 4   | 46    | 5230        | 17.0          | 17.0     | 16.0          | 16.0     | 0.005      | 0.001 | 0.005  | 0.001 | -         | -     | -      | -     |       |
|         |                     |                  |            |          |       |             |               |          |               |          |            |       |        |       |           |       |        |       |       |

**Variant 2 Spot Check**

| Band    | No. of Transmitters | Mode             | Dist. (mm) | Position | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | SAR (W/kg) |       |        |       |           |       |        |       | Plots |
|---------|---------------------|------------------|------------|----------|-------|-------------|---------------|----------|---------------|----------|------------|-------|--------|-------|-----------|-------|--------|-------|-------|
|         |                     |                  |            |          |       |             | Antenna A     |          | Antenna B     |          | Antenna A  |       |        |       | Antenna B |       |        |       |       |
|         |                     |                  |            |          |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured | Measured   |       | Scaled |       | Measured  |       | Scaled |       |       |
|         |                     |                  |            |          |       |             |               |          |               |          | 1-g        | 10-g  | 1-g    | 10-g  | 1-g       | 10-g  | 1-g    | 10-g  |       |
| 5.2 GHz | 2 Tx                | 802.11n HT40 CDD | 0          | Edge 3   | 46    | 5230        | 17.0          | 16.8     | 16.0          | 16.0     | 1.010      | 0.343 | 1.058  | 0.359 | 1.000     | 0.327 | 1.000  | 0.327 |       |

**Note(s):**

- Edge 1 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- SAR values represented by "-" indicate the absence of a secondary peak within 2 dB of the maximum peak and therefore no detectable secondary zoom scan.

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

### Variant 1

| Band   | No. of Transmitters | Mode           | Dist. (mm) | Position | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | SAR (W/kg) |       |        |       |           |       |        |       | Plots |
|--------|---------------------|----------------|------------|----------|-------|-------------|---------------|----------|---------------|----------|------------|-------|--------|-------|-----------|-------|--------|-------|-------|
|        |                     |                |            |          |       |             | Antenna A     |          | Antenna B     |          | Antenna A  |       |        |       | Antenna B |       |        |       |       |
|        |                     |                |            |          |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured | Measured   |       | Scaled |       | Measured  |       | Scaled |       |       |
|        |                     |                |            |          |       |             |               |          |               | 1-g      | 10-g       | 1-g   | 10-g   | 1-g   | 10-g      | 1-g   | 10-g   |       |       |
| 5.5GHz | 1 Tx                | 802.11ac VHT80 | 0          | Rear     | 122   | 5610        | 15.0          | 15.0     |               |          | 0.085      | 0.032 | 0.085  | 0.032 |           |       |        |       |       |
|        |                     |                |            | Edge 1   | 122   | 5610        | 15.0          | 15.0     |               |          | 0.019      | 0.008 | 0.019  | 0.008 |           |       |        |       |       |
|        |                     |                |            | Edge 3   | 122   | 5610        | 15.0          | 15.0     |               |          | 1.040      | 0.348 | 1.040  | 0.348 |           |       |        |       |       |
|        |                     |                |            |          | 138   | 5690        | 15.0          | 15.0     |               |          | 1.140      | 0.358 | 1.140  | 0.358 |           |       |        |       |       |
|        |                     |                |            | Edge 4   | 122   | 5610        | 15.0          | 15.0     |               |          | -          | -     | -      | -     |           |       |        |       |       |
| 5.5GHz | 1 Tx                | 802.11ac VHT80 | 0          | Rear     | 122   | 5610        |               |          | 15.0          | 15.0     |            |       |        |       | 0.079     | 0.031 | 0.079  | 0.031 |       |
|        |                     |                |            | Edge 1   | 122   | 5610        |               |          | 15.0          | 15.0     |            |       |        |       | 0.007     | 0.001 | 0.007  | 0.001 |       |
|        |                     |                |            | Edge 2   | 122   | 5610        |               |          | 15.0          | 15.0     |            |       |        |       | -         | -     | -      | -     |       |
|        |                     |                |            | Edge 3   | 122   | 5610        |               |          | 15.0          | 15.0     |            |       |        |       | 1.010     | 0.342 | 1.010  | 0.342 |       |
|        |                     |                |            |          | 138   | 5690        |               |          | 15.0          | 15.0     |            |       |        |       | 0.999     | 0.332 | 0.999  | 0.332 |       |
| 5.5GHz | 1 Tx                | 802.11ac VHT80 | 0          | Rear     | 122   | 5610        | 15.0          | 15.0     | 15.0          | 15.0     | 0.092      | 0.038 | 0.092  | 0.038 | 0.073     | 0.030 | 0.073  | 0.030 |       |
|        |                     |                |            | Edge 1   | 122   | 5610        | 15.0          | 15.0     | 15.0          | 15.0     | 0.023      | 0.009 | 0.023  | 0.009 | 0.029     | 0.012 | 0.029  | 0.012 |       |
|        |                     |                |            | Edge 2   | 122   | 5610        | 15.0          | 15.0     | 15.0          | 15.0     | -          | -     | -      | -     | -         | -     | -      | -     |       |
|        |                     |                |            |          | 122   | 5610        | 15.0          | 15.0     | 15.0          | 15.0     | 1.150      | 0.359 | 1.150  | 0.359 | 1.120     | 0.346 | 1.120  | 0.346 |       |
|        |                     |                |            | Edge 3   | 138   | 5690        | 15.0          | 15.0     | 15.0          | 15.0     | 1.180      | 0.397 | 1.180  | 0.397 | 1.030     | 0.322 | 1.030  | 0.322 | 21    |
|        |                     |                |            |          | 122   | 5610        | 15.0          | 15.0     | 15.0          | 15.0     | -          | -     | -      | -     | -         | -     | -      | -     |       |

### Variant 2 Spot Check

| Variant 2 Spot Check |                     |                |            |          |       |             |               |          |               |          |            |       |        |       |           |       |        |       |       |
|----------------------|---------------------|----------------|------------|----------|-------|-------------|---------------|----------|---------------|----------|------------|-------|--------|-------|-----------|-------|--------|-------|-------|
| Band                 | No. of Transmitters | Mode           | Dist. (mm) | Position | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | SAR (W/kg) |       |        |       |           |       |        |       | Plots |
|                      |                     |                |            |          |       |             | Antenna A     |          | Antenna B     |          | Antenna A  |       |        |       | Antenna B |       |        |       |       |
|                      |                     |                |            |          |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured | Measured   |       | Scaled |       | Measured  |       | Scaled |       |       |
|                      |                     |                |            |          |       |             | 1-g           | 10-g     | 1-g           | 10-g     | 1-g        | 10-g  | 1-g    | 10-g  | 1-g       | 10-g  |        |       |       |
| 5.5 GHz              | 2 Tx                | 802.11ac VHT80 | 0          | Edge 3   | 138   | 5690        | 15.0          | 15.0     | 15.0          | 15.0     | 1.160      | 0.370 | 1.160  | 0.370 | 1.080     | 0.350 | 1.080  | 0.350 |       |

#### Note(s):

- Edge 1 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- SAR values represented by "-" indicate the absence of a secondary peak within 2 dB of the maximum peak and therefore no detectable secondary zoom scan.

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

### Variant 1

| Band    | No. of Transmitters | Mode               | Dist. (mm) | Position | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | SAR (W/kg) |       |        |       |           |       |        |       | Plots |
|---------|---------------------|--------------------|------------|----------|-------|-------------|---------------|----------|---------------|----------|------------|-------|--------|-------|-----------|-------|--------|-------|-------|
|         |                     |                    |            |          |       |             | Antenna A     |          | Antenna B     |          | Antenna A  |       |        |       | Antenna B |       |        |       |       |
|         |                     |                    |            |          |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured | Measured   |       | Scaled |       | Measured  |       | Scaled |       |       |
|         |                     |                    |            |          |       |             | 1-g           | 10-g     | 1-g           | 10-g     | 1-g        | 10-g  | 1-g    | 10-g  | 1-g       | 10-g  |        |       |       |
| 5.8 GHz | 1 Tx                | 802.11ac VHT80     | 0          | Rear     | 155   | 5775        | 15.0          | 15.0     |               |          | 0.111      | 0.049 | 0.111  | 0.049 |           |       |        |       | 22    |
|         |                     |                    |            | Edge 1   | 155   | 5775        | 15.0          | 15.0     |               |          | -          | -     | -      | -     |           |       |        |       |       |
|         |                     |                    |            | Edge 3   | 155   | 5775        | 15.0          | 15.0     |               |          | 1.170      | 0.388 | 1.170  | 0.388 |           |       |        |       |       |
|         |                     |                    |            | Edge 4   | 155   | 5775        | 15.0          | 15.0     |               |          | 0.004      | 0.001 | 0.004  | 0.001 |           |       |        |       |       |
| 5.8 GHz | 1 Tx                | 802.11ac VHT80     | 0          | Rear     | 155   | 5775        |               |          | 15.5          | 15.5     |            |       |        |       | 0.089     | 0.036 | 0.089  | 0.036 |       |
|         |                     |                    |            | Edge 1   | 155   | 5775        |               |          | 15.5          | 15.5     |            |       |        |       | -         | -     | -      | -     |       |
|         |                     |                    |            | Edge 2   | 155   | 5775        |               |          | 15.5          | 15.5     |            |       |        |       | 0.006     | 0.001 | 0.006  | 0.001 |       |
|         |                     |                    |            | Edge 3   | 155   | 5775        |               |          | 15.5          | 15.5     |            |       |        |       | 0.996     | 0.331 | 0.996  | 0.331 |       |
| 5.8 GHz | 2 Tx                | 802.11ac VHT80 CDD | 0          | Rear     | 155   | 5775        | 15.0          | 15.0     | 15.5          | 15.4     | 0.105      | 0.042 | 0.105  | 0.042 | 0.104     | 0.043 | 0.106  | 0.044 |       |
|         |                     |                    |            | Edge 1   | 155   | 5775        | 15.0          | 15.0     | 15.5          | 15.4     | 0.021      | 0.012 | 0.021  | 0.012 | 0.017     | 0.008 | 0.018  | 0.009 |       |
|         |                     |                    |            | Edge 2   | 155   | 5775        | 15.0          | 15.0     | 15.5          | 15.4     | -          | -     | -      | -     | -         | -     | -      | -     |       |
|         |                     |                    |            | Edge 3   | 155   | 5775        | 15.0          | 15.0     | 15.5          | 15.4     | 1.150      | 0.383 | 1.150  | 0.383 | 1.070     | 0.358 | 1.095  | 0.366 |       |
|         |                     |                    |            | Edge 4   | 155   | 5775        | 15.0          | 15.0     | 15.5          | 15.4     | -          | -     | -      | -     | -         | -     | -      | -     |       |

### Variant 2 Spot Check

| Band    | No. of Transmitters | Mode           | Dist. (mm) | Position | Ch #. | Freq. (MHz) | Power (dBm)   |          |               |          | SAR (W/kg) |       |        |       |           |     |        |  | Plots |
|---------|---------------------|----------------|------------|----------|-------|-------------|---------------|----------|---------------|----------|------------|-------|--------|-------|-----------|-----|--------|--|-------|
|         |                     |                |            |          |       |             | Antenna A     |          | Antenna B     |          | Antenna A  |       |        |       | Antenna B |     |        |  |       |
|         |                     |                |            |          |       |             | Tune-up Limit | Measured | Tune-up Limit | Measured | Measured   |       | Scaled |       | Measured  |     | Scaled |  |       |
|         |                     |                |            |          |       |             |               |          |               | 1-g      | 10-g       | 1-g   | 10-g   | 1-g   | 10-g      | 1-g | 10-g   |  |       |
| 5.8 GHz | 1 Tx                | 802.11ac VHT80 | 0          | Edge 3   | 155   | 5775        | 15.0          | 15.0     |               |          | 1.010      | 0.332 | 1.010  | 0.332 |           |     |        |  |       |

#### Note(s):

- Edge 1 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- SAR values represented by "-" indicate the absence of a secondary peak within 2 dB of the maximum peak and therefore no detectable secondary zoom scan.

## 10.27. Bluetooth (P<sub>High</sub>)

### Variant 1

| Band      | No. of Transmitters | Mode | Dist. (mm) | Position | Ch #. | Freq. (MHz) | Power (dBm)   |          | SAR (W/kg) |       |        |       | Plots |
|-----------|---------------------|------|------------|----------|-------|-------------|---------------|----------|------------|-------|--------|-------|-------|
|           |                     |      |            |          |       |             | Tune-up Limit | Measured | Measured   |       | Scaled |       |       |
|           |                     |      |            |          |       |             |               |          | 1-g        | 10-g  | 1-g    | 10-g  |       |
| Bluetooth | 1 Tx                | GFSK | 0          | Rear     | 39    | 2441        | 17.0          | 16.5     | 0.115      | 0.049 | 0.129  | 0.055 |       |
|           |                     |      |            | Edge 1   | 39    | 2441        | 17.0          | 16.5     | 0.004      | 0.001 | 0.004  | 0.001 |       |
|           |                     |      |            | Edge 2   | 39    | 2441        | 17.0          | 16.5     | 0.008      | 0.002 | 0.009  | 0.002 |       |
|           |                     |      |            | Edge 3   | 0     | 2402        | 17.0          | 16.2     | 0.885      | 0.293 | 1.064  | 0.352 |       |
|           |                     |      |            |          | 39    | 2441        | 17.0          | 16.5     | 1.030      | 0.342 | 1.156  | 0.384 | 23    |
|           |                     |      |            |          | 78    | 2480        | 17.0          | 16.5     | 0.987      | 0.328 | 1.107  | 0.368 |       |
|           |                     |      |            | Edge 4   | 39    | 2441        | 17.0          | 16.5     | 0.018      | 0.007 | 0.020  | 0.008 |       |

### Variant 2 Spot Check

| Band      | No. of Transmitters | Mode | Dist. (mm) | Position | Ch #. | Freq. (MHz) | Power (dBm)   |          | SAR (W/kg) |       |        |       | Plots |
|-----------|---------------------|------|------------|----------|-------|-------------|---------------|----------|------------|-------|--------|-------|-------|
|           |                     |      |            |          |       |             | Tune-up Limit | Measured | Measured   |       | Scaled |       |       |
|           |                     |      |            |          |       |             |               |          | 1-g        | 10-g  | 1-g    | 10-g  |       |
| Bluetooth | 1 Tx                | GFSK | 0          | Edge 3   | 39    | 2441        | 17.0          | 16.7     | 1.040      | 0.348 | 1.114  | 0.373 |       |

#### Note(s):

- Edge 1 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- SAR values represented by “-” indicate the absence of a secondary peak within 2 dB of the maximum peak and therefore no detectable secondary zoom scan.

## 10.28. Bluetooth (P<sub>Low</sub>)

### Variant 1

| Band      | No. of Transmitters | Mode | Dist. (mm) | Position | Ch #. | Freq. (MHz) | Power (dBm)   |          | SAR (W/kg) |       |        |       | Plots |
|-----------|---------------------|------|------------|----------|-------|-------------|---------------|----------|------------|-------|--------|-------|-------|
|           |                     |      |            |          |       |             | Tune-up Limit | Measured | Measured   |       | Scaled |       |       |
|           |                     |      |            |          |       |             |               |          | 1-g        | 10-g  | 1-g    | 10-g  |       |
| Bluetooth | 1 Tx                | GFSK | 0          | Rear     | 39    | 2441        | 10.5          | 9.6      | 0.017      | 0.006 | 0.021  | 0.007 |       |
|           |                     |      |            | Edge 1   | 39    | 2441        | 10.5          | 9.6      | -          | -     | -      | -     |       |
|           |                     |      |            | Edge 3   | 39    | 2441        | 10.5          | 9.6      | 0.190      | 0.061 | 0.234  | 0.075 |       |
|           |                     |      |            | Edge 4   | 39    | 2441        | 10.5          | 9.6      | -          | -     | -      | -     |       |

#### Note(s):

- Edge 1 testing was performed so that the measured SAR result can be used in place of the overly conservative estimated SAR value.
- SAR values represented by “-” indicate the absence of a secondary peak within 2 dB of the maximum peak and therefore no detectable secondary zoom scan.
- Bluetooth Plow is triggered when 5 GHz Wi-Fi is on. Functional description of this mode is provided in technical description documents.

## 11. SAR Measurement Variability

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

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

| Frequency Band (MHz) | Air Interface      | RF Exposure Conditions | Test Position | Repeated SAR (Yes/No) | Highest Measured SAR (W/kg) | First Repeated      |                               | Second Repeated     |                               | Third Repeated      |
|----------------------|--------------------|------------------------|---------------|-----------------------|-----------------------------|---------------------|-------------------------------|---------------------|-------------------------------|---------------------|
|                      |                    |                        |               |                       |                             | Measured SAR (W/kg) | Largest to Smallest SAR Ratio | Measured SAR (W/kg) | Largest to Smallest SAR Ratio | Measured SAR (W/kg) |
| 700                  | LTE Band 12        | Standalone             | Rear          | Yes                   | 1.190                       | 1.170               | 1.02                          | N/A                 | N/A                           |                     |
|                      | LTE Band 13        | Standalone             | Rear          | No                    | 1.100                       | N/A                 | N/A                           |                     |                               |                     |
| 850                  | GSM 850            | Standalone             | Rear          | Yes                   | 1.170                       | 1.150               | 1.02                          | N/A                 | N/A                           |                     |
|                      | CDMA BC0           | Standalone             | Rear          | No                    | 1.090                       | N/A                 | N/A                           |                     |                               |                     |
|                      | CDMA BC10          | Standalone             | Rear          | No                    | 1.050                       | N/A                 | N/A                           |                     |                               |                     |
|                      | WCDMA Band V       | Standalone             | Rear          | No                    | 1.120                       | N/A                 | N/A                           |                     |                               |                     |
|                      | LTE Band 26        | Standalone             | Rear          | No                    | 0.891                       | N/A                 | N/A                           |                     |                               |                     |
| 1900                 | GSM 1900           | Standalone             | Rear          | Yes                   | 1.140                       | 1.130               | 1.01                          | N/A                 | N/A                           |                     |
|                      | CDMA BC1           | Standalone             | Rear          | No                    | 1.050                       | N/A                 | N/A                           |                     |                               |                     |
|                      | WCDMA Band II      | Standalone             | Rear          | No                    | 1.020                       | N/A                 | N/A                           |                     |                               |                     |
|                      | LTE Band 25        | Standalone             | Rear          | No                    | 1.010                       | N/A                 | N/A                           |                     |                               |                     |
| 1700                 | LTE Band 4         | Standalone             | Rear          | No                    | 1.110                       | N/A                 | N/A                           |                     |                               |                     |
|                      | WCDMA Band IV      | Standalone             | Rear          | Yes                   | 1.140                       | 1.120               | 1.02                          | N/A                 | N/A                           |                     |
| 2300                 | LTE Band 30        | Standalone             | Rear          | Yes                   | 1.130                       | 1.060               | 1.07                          | N/A                 | N/A                           |                     |
| 2400                 | Wi-Fi 802.11b/g/n  | Standalone             | Edge 3        | Yes                   | 1.170                       | 1.120               | 1.04                          | N/A                 | N/A                           |                     |
|                      | BT                 | Standalone             | Edge 3        | No                    | 1.030                       | N/A                 | N/A                           |                     |                               |                     |
| 2600                 | LTE Band 7         | Standalone             | Rear          | No                    | 1.050                       | N/A                 | N/A                           |                     |                               |                     |
|                      | LTE Band 41        | Standalone             | Rear          | Yes                   | 1.170                       | 1.120               | 1.04                          | N/A                 | N/A                           |                     |
| 5200                 | Wi-Fi 802.11a/n/ac | Standalone             | Edge 3        | Yes                   | 1.190                       | 1.100               | 1.08                          | N/A                 | N/A                           |                     |
| 5300                 | Wi-Fi 802.11a/n/ac | Standalone             | Edge 3        | Yes                   | 0.955                       | 0.88                | 1.09                          | N/A                 | N/A                           |                     |
| 5500                 | Wi-Fi 802.11a/n/ac | Standalone             | Edge 3        | Yes                   | 1.180                       | 1.180               | 1.00                          | N/A                 | N/A                           |                     |
| 5800                 | Wi-Fi 802.11a/n/ac | Standalone             | Edge 3        | Yes                   | 1.170                       | 1.110               | 1.05                          | N/A                 | N/A                           |                     |

### Note(s):

Second Repeated Measurement is not required since the ratio of the largest to smallest SAR for the original and first repeated measurement is not  $> 1.20$  or 3 (1-g or 10-g respectively).

## 12. Simultaneous Transmission SAR Analysis

According to KDB 447498 D01, when the sum of SAR exceeds the limit for a combination of simultaneously transmitting antennas, SAR test exclusion is determined by the SAR to peak location separation ratio (SPLSR) between pairs of antennas within the combination. SPLSR is determined by  $(SAR_1 + SAR_2)^{1.5} / Ri$ , where  $SAR_1$  and  $SAR_2$  are the highest reported or estimated SAR values for each antenna, and  $Ri$  is the separation distance between the SAR peak locations. SAR peak locations and  $Ri$  are to be determined differently depending on the SAR values involved- measured or estimated- and all coordinates must be clearly identified in the report.

To qualify for SAR test exclusion by way of SPLSR, each antenna in the combination must be evaluated one pair at a time, and the SPLSR for all pairs must be  $\leq 0.04$  and  $0.10$ , respectively, for 1-g and 10-g SAR evaluation.

### Simultaneous Transmission Conditions

| RF Exposure Condition | Item | Capable Transmit Configurations |                                                              |
|-----------------------|------|---------------------------------|--------------------------------------------------------------|
| Body                  | 1    | WWAN OFF                        | + Antenna A Wi-Fi 5 GHz SISO + Bluetooth (P <sub>low</sub> ) |
|                       | 2    |                                 | + Antenna B Wi-Fi 5 GHz SISO + Bluetooth (P <sub>low</sub> ) |
|                       | 3    |                                 | + Wi-Fi 5 GHz MIMO + Bluetooth (P <sub>low</sub> )           |
|                       | 4    | Antenna C<br>WWAN ON            | + Antenna A Wi-Fi 2.4 GHz SISO                               |
|                       | 5    |                                 | + Antenna B Wi-Fi 2.4 GHz SISO                               |
|                       | 6    |                                 | + Wi-Fi 2.4 GHz MIMO                                         |
|                       | 7    |                                 | + Bluetooth (P <sub>High</sub> )                             |
|                       | 8    |                                 | + Bluetooth (P <sub>low</sub> )                              |
|                       | 9    |                                 | + Antenna A Wi-Fi 5 GHz SISO                                 |
|                       | 10   |                                 | + Antenna B Wi-Fi 5 GHz SISO                                 |
|                       | 11   |                                 | + Wi-Fi 5 GHz MIMO                                           |
|                       | 12   |                                 | + Antenna A Wi-Fi 5 GHz SISO + Bluetooth (P <sub>low</sub> ) |
|                       | 13   |                                 | + Antenna B Wi-Fi 5 GHz SISO + Bluetooth (P <sub>low</sub> ) |
|                       | 14   |                                 | + Wi-Fi 5 GHz MIMO + Bluetooth (P <sub>low</sub> )           |
|                       | 15   | Antenna D<br>WWAN ON            | + Antenna A Wi-Fi 2.4 GHz SISO                               |
|                       | 16   |                                 | + Antenna B Wi-Fi 2.4 GHz SISO                               |
|                       | 17   |                                 | + Wi-Fi 2.4 GHz MIMO                                         |
|                       | 18   |                                 | + Bluetooth (P <sub>High</sub> )                             |
|                       | 19   |                                 | + Bluetooth (P <sub>low</sub> )                              |
|                       | 20   |                                 | + Antenna A Wi-Fi 5 GHz SISO                                 |
|                       | 21   |                                 | + Antenna B Wi-Fi 5 GHz SISO                                 |
|                       | 22   |                                 | + Wi-Fi 5 GHz MIMO                                           |
|                       | 23   |                                 | + Antenna A Wi-Fi 5 GHz SISO + Bluetooth (P <sub>low</sub> ) |
|                       | 24   |                                 | + Antenna B Wi-Fi 5 GHz SISO + Bluetooth (P <sub>low</sub> ) |
|                       | 25   |                                 | + Wi-Fi 5 GHz MIMO + Bluetooth (P <sub>low</sub> )           |

#### Notes:

1. Wi-Fi 2.4GHz cannot transmit simultaneously with Bluetooth Radio.
2. Conditions 9, 10 and 11 are covered by conditions 12, 13 and 14, respectively.
3. Condition 8 is covered by conditions 12, 13 and 14.
4. Conditions 20, 21 and 22 are covered by conditions 23, 24 and 25, respectively.
5. Condition 19 is covered by conditions 23, 24 and 25.
6. Antenna C Hotspot Mode is covered by conditions 4, 5 and 6.
7. Antenna D Hotspot Mode is covered by conditions 15, 16 and 17.

## Estimated SAR for Simultaneous Transmission SAR Analysis

### Considerations for SAR estimation

1. When standalone SAR test exclusion applies, standalone SAR must also be estimated to determine simultaneous transmission SAR test exclusion.
2. Dedicated Host Approach criteria for SAR test exclusion is likewise applied to SAR estimation, with certain distinctions between test exclusion and SAR estimation:
  - When the separation distance from the antenna to an adjacent edge is  $\leq 5$  mm, a distance of 5 mm is applied for SAR estimation; this is the same between test exclusion and SAR estimation calculations.
  - When the separation distance from the antenna to an adjacent edge is  $> 5$  mm but  $\leq 50$  mm, the actual antenna-to-edge separation distance is applied for SAR estimation.
  - When the minimum test separation distance is  $> 50$  mm, the estimated SAR value is 0.4 W/kg
3. Please refer to Estimated SAR Tables to see which test positions are inherently compliant as they consist of only estimated SAR values for all applicable transmitters and consequently will always have sum of SAR values  $< 1.2$  W/kg. Simultaneous transmission SAR analysis was therefore not performed for these test positions.
4. For conditions where the estimated SAR is overly conservative for certain conditions, the test lab may choose to perform standalone SAR measurements and use the measured SAR to determine simultaneous transmission SAR test exclusion.

**Estimated SAR for WWAN**

| Antenna   | Tx Interface | Frequency (MHz) | Output Power |     | Separation Distances (mm) |        |        |        |        |       | Estimated 1-g SAR Value (W/kg) |           |        |        |        |       |
|-----------|--------------|-----------------|--------------|-----|---------------------------|--------|--------|--------|--------|-------|--------------------------------|-----------|--------|--------|--------|-------|
|           |              |                 | dBm          | mW  | Rear                      | Edge 1 | Edge 2 | Edge 3 | Edge 4 | Front | Rear                           | Edge 1    | Edge 2 | Edge 3 | Edge 4 | Front |
| Antenna C |              |                 |              |     |                           |        |        |        |        |       |                                |           |        |        |        |       |
| Cellular  | GPRS 2 Slots | 848.8           | 25.0         | 79  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | GPRS 2 Slots | 1909.8          | 19.0         | 20  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | W-CDMA 2     | 1907.6          | 12.6         | 18  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | W-CDMA 4     | 1752.6          | 13.0         | 20  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | W-CDMA 5     | 846.6           | 18.8         | 76  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | CDMA BC0     | 848.3           | 18.8         | 76  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | CDMA BC1     | 1908.8          | 12.6         | 18  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | CDMA BC10    | 823.1           | 18.5         | 71  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 2   | 1900.0          | 12.6         | 18  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 4   | 1754.3          | 13.0         | 20  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 5   | 844.0           | 18.8         | 76  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 7   | 2560.0          | 13.0         | 20  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 12  | 711.0           | 20.2         | 105 | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 13  | 782.0           | 19.2         | 83  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 17  | 710.0           | 20.2         | 105 | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 25  | 1905.0          | 12.6         | 18  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 26  | 841.4           | 18.8         | 76  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 27  | 815.5           | 18.5         | 71  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 30  | 2310.0          | 13.5         | 22  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 41  | 2680.0          | 14.7         | 30  | 4.78                      | 3.38   | 52.42  | 290.87 | 122.96 |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Antenna D |              |                 |              |     |                           |        |        |        |        |       |                                |           |        |        |        |       |
| Cellular  | GPRS 2 Slots | 848.8           | 24.0         | 63  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | GPRS 2 Slots | 1909.8          | 20.8         | 30  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | W-CDMA 2     | 1907.6          | 14.2         | 26  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | W-CDMA 4     | 1752.6          | 13.7         | 23  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | W-CDMA 5     | 846.6           | 17.2         | 52  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | CDMA BC0     | 848.3           | 17.2         | 52  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | CDMA BC1     | 1908.8          | 14.2         | 26  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | CDMA BC10    | 823.1           | 17.2         | 52  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 4   | 1754.3          | 13.7         | 23  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 5   | 844.0           | 18.5         | 71  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 7   | 2560.0          | 13.7         | 23  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 12  | 711.0           | 18.0         | 63  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 13  | 782.0           | 18.0         | 63  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 17  | 710.0           | 18.0         | 63  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 25  | 1905.0          | 14.2         | 26  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 26  | 841.4           | 18.5         | 71  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 27  | 815.5           | 18.5         | 71  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 30  | 2310.0          | 12.8         | 19  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |
| Cellular  | LTE Band 41  | 2680.0          | 14.5         | 28  | 4.78                      | 3.38   | 122.96 | 290.87 | 52.42  |       | -MEA SURE                      | -MEA SURE | 0.400  | 0.400  | 0.400  |       |

**Estimated SAR for WLAN**

| Tx Interface  | Frequency (MHz) | Output Power |     | Separation Distances (mm) |        |        |        |        |       | Estimated 1-g SAR Value (W/kg) |        |        |          |          |       |
|---------------|-----------------|--------------|-----|---------------------------|--------|--------|--------|--------|-------|--------------------------------|--------|--------|----------|----------|-------|
|               |                 | dBm          | mW  | Rear                      | Edge 1 | Edge 2 | Edge 3 | Edge 4 | Front | Rear                           | Edge 1 | Edge 2 | Edge 3   | Edge 4   | Front |
| Antenna A     |                 |              |     |                           |        |        |        |        |       |                                |        |        |          |          |       |
| Wi-Fi 2.4 GHz | 2462            | 16.00        | 40  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  |       | -MEASURE                       | 0.400  | 0.400  | -MEASURE | 0.182    |       |
| Wi-Fi 5.2 GHz | 5240            | 17.00        | 50  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  |       | -MEASURE                       | 0.400  | 0.400  | -MEASURE | 0.332    |       |
| Wi-Fi 5.3 GHz | 5320            | 16.00        | 40  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  |       | -MEASURE                       | 0.400  | 0.400  | -MEASURE | 0.267    |       |
| Wi-Fi 5.5 GHz | 5700            | 15.00        | 32  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  |       | -MEASURE                       | 0.400  | 0.400  | -MEASURE | 0.221    |       |
| Wi-Fi 5.8 GHz | 5825            | 15.00        | 32  | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  |       | -MEASURE                       | 0.400  | 0.400  | -MEASURE | 0.224    |       |
| Bluetooth     | 2480            | 20.00        | 100 | 6.09                      | 293.66 | 129.69 | 3.45   | 46.38  |       | -MEASURE                       | 0.400  | 0.400  | -MEASURE | -MEASURE |       |
| Antenna B     |                 |              |     |                           |        |        |        |        |       |                                |        |        |          |          |       |
| Wi-Fi 2.4 GHz | 2462            | 16.00        | 40  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 |       | -MEASURE                       | 0.400  | 0.182  | -MEASURE | 0.400    |       |
| Wi-Fi 5.2 GHz | 5240            | 16.00        | 40  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 |       | -MEASURE                       | 0.400  | 0.265  | -MEASURE | 0.400    |       |
| Wi-Fi 5.3 GHz | 5320            | 16.00        | 40  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 |       | -MEASURE                       | 0.400  | 0.267  | -MEASURE | 0.400    |       |
| Wi-Fi 5.5 GHz | 5700            | 15.00        | 32  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 |       | -MEASURE                       | 0.400  | 0.221  | -MEASURE | 0.400    |       |
| Wi-Fi 5.8 GHz | 5825            | 15.50        | 35  | 6.09                      | 293.66 | 46.38  | 3.45   | 129.69 |       | -MEASURE                       | 0.400  | 0.245  | -MEASURE | 0.400    |       |

**12.1. Sum of the SAR for Wi-Fi and BT(P<sub>low</sub>)**

| RF Exposure Condition | Test Position | Standalone SAR (W/kg) |              |            |          | $\Sigma$ 1-g SAR (W/g) |                       |                     |
|-----------------------|---------------|-----------------------|--------------|------------|----------|------------------------|-----------------------|---------------------|
|                       |               | (E)                   | (F)          | (G)        | (H)      | (E) + (H)              | (F) + (H)             | (G) + (H)           |
|                       |               | U-NII Ant. A          | U-NII Ant. B | U-NII MIMO | BT P-low | U-NII+BT Ant. A+P-low  | U-NII+BT Ant. B+P-low | U-NII+BT MIMO+P-low |
| Body                  | Rear          | 0.144                 | 0.089        | 0.111      | 0.021    | 0.165                  | 0.110                 | 0.132               |
|                       | Edge 2        | 0.400                 | 0.006        | 0.000      | 0.400    | 0.800                  | 0.406                 | 0.400               |
|                       | Edge 3        | 1.170                 | 1.072        | 1.190      | 0.234    | 1.404                  | 1.306                 | 1.424               |
|                       | Edge 4        | 0.004                 | 0.400        | 0.005      | 0.000    | 0.004                  | 0.400                 | 0.005               |

**Conclusion:**

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

## 12.2. Sum of the SAR for GSM850 (Antenna C), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 1.000                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.110                  | 1.060                  | 1.090                | 1.129                 | 1.165                             | 1.110                             | 1.132                           |
|                      | Edge 1        | 0.606                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.610                  | 0.606                  | 0.611                | 0.610                 | 0.625                             | 0.613                             | 0.635                           |
|                      | Edge 2        | 0.076                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.476                  | 0.086                  | 0.098                | 0.085                 | 0.876                             | 0.482                             | 0.476                           |
|                      | Edge 3        | 0.014                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.064                  | 1.184                  | 1.054                | 1.170                 | 1.418                             | 1.320                             | 1.438                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

## 12.3. Sum of the SAR for GSM850 (Antenna D), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.170                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.280                  | 1.230                  | 1.260                | 1.299                 | 1.335                             | 1.280                             | 1.302                           |
|                      | Edge 1        | 0.748                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.752                  | 0.748                  | 0.753                | 0.752                 | 0.767                             | 0.755                             | 0.777                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.006                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.056                  | 1.176                  | 1.046                | 1.162                 | 1.410                             | 1.312                             | 1.430                           |
|                      | Edge 4        | 0.046                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.065                  | 0.446                  | 0.069                | 0.066                 | 0.050                             | 0.446                             | 0.051                           |

### Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

## 12.4. Sum of the SAR for GSM1900 (Antenna C), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 1.120                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.230                  | 1.190                  | 1.211                | 1.249                 | 1.285                             | 1.231                             | 1.252                           |
|                      | Edge 1        | 0.494                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.498                  | 0.494                  | 0.499                | 0.498                 | 0.513                             | 0.501                             | 0.523                           |
|                      | Edge 2        | 0.088                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.488                  | 0.098                  | 0.110                | 0.096                 | 0.888                             | 0.493                             | 0.488                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

## 12.5. Sum of the SAR for GSM1900 (Antenna D), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.167                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.277                  | 1.227                  | 1.257                | 1.296                 | 1.331                             | 1.277                             | 1.298                           |
|                      | Edge 1        | 0.591                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.595                  | 0.591                  | 0.596                | 0.596                 | 0.611                             | 0.599                             | 0.621                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.071                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.090                  | 0.471                  | 0.094                | 0.091                 | 0.075                             | 0.471                             | 0.076                           |

### Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

## 12.6. Sum of the SAR for W-CDMA Band II (Antenna C), Wi-Fi and BT

| RF Exposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|-----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                       |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                       |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                  | Rear          | 1.093                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.203                  | 1.153                  | 1.183                | 1.222                 | 1.258                             | 1.203                             | 1.225                           |
|                       | Edge 1        | 0.485                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.489                  | 0.485                  | 0.490                | 0.490                 | 0.505                             | 0.493                             | 0.514                           |
|                       | Edge 2        | 0.101                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.501                  | 0.112                  | 0.123                | 0.110                 | 0.901                             | 0.507                             | 0.501                           |
|                       | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                       | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

## 12.7. Sum of the SAR for W-CDMA Band II (Antenna D), Wi-Fi and BT

| RF Exposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|-----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                       |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                       |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                  | Rear          | 1.045                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.155                  | 1.105                  | 1.135                | 1.174                 | 1.210                             | 1.155                             | 1.177                           |
|                       | Edge 1        | 0.537                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.541                  | 0.537                  | 0.542                | 0.541                 | 0.556                             | 0.544                             | 0.566                           |
|                       | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                       | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                       | Edge 4        | 0.051                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.070                  | 0.451                  | 0.074                | 0.072                 | 0.055                             | 0.451                             | 0.056                           |

### Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

## 12.8. Sum of the SAR for W-CDMA Band IV (Antenna C), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 1.140                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.250                  | 1.200                  | 1.230                | 1.269                 | 1.305                             | 1.250                             | 1.272                           |
|                      | Edge 1        | 0.568                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.572                  | 0.568                  | 0.573                | 0.572                 | 0.587                             | 0.575                             | 0.597                           |
|                      | Edge 2        | 0.052                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.452                  | 0.062                  | 0.074                | 0.061                 | 0.852                             | 0.458                             | 0.452                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

## 12.9. Sum of the SAR for W-CDMA Band IV (Antenna D), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.133                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.243                  | 1.193                  | 1.223                | 1.262                 | 1.298                             | 1.243                             | 1.265                           |
|                      | Edge 1        | 0.594                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.597                  | 0.594                  | 0.598                | 0.598                 | 0.613                             | 0.601                             | 0.623                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.073                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.092                  | 0.473                  | 0.096                | 0.093                 | 0.077                             | 0.473                             | 0.078                           |

### Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

## 12.10. Sum of the SAR for W-CDMA Band V (Antenna C), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 0.885                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 0.995                  | 0.945                  | 0.975                | 1.014                 | 1.050                             | 0.995                             | 1.017                           |
|                      | Edge 1        | 0.687                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.691                  | 0.687                  | 0.692                | 0.691                 | 0.706                             | 0.694                             | 0.716                           |
|                      | Edge 2        | 0.110                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.510                  | 0.120                  | 0.132                | 0.119                 | 0.910                             | 0.516                             | 0.510                           |
|                      | Edge 3        | 0.017                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.067                  | 1.187                  | 1.057                | 1.173                 | 1.421                             | 1.323                             | 1.441                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

## 12.11. Sum of the SAR for W-CDMA Band V (Antenna D), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.173                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.283                  | 1.233                  | 1.263                | 1.302                 | 1.338                             | 1.283                             | 1.305                           |
|                      | Edge 1        | 0.776                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.780                  | 0.776                  | 0.781                | 0.780                 | 0.795                             | 0.783                             | 0.805                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.009                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.059                  | 1.179                  | 1.049                | 1.165                 | 1.413                             | 1.315                             | 1.433                           |
|                      | Edge 4        | 0.051                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.070                  | 0.451                  | 0.074                | 0.071                 | 0.055                             | 0.451                             | 0.056                           |

### Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

**12.12. Sum of the SAR for CDMA BC 0 (Antenna C), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 0.985                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.095                  | 1.045                  | 1.075                | 1.114                 | 1.150                             | 1.095                             | 1.117                           |
|                      | Edge 1        | 0.826                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.829                  | 0.826                  | 0.830                | 0.830                 | 0.845                             | 0.833                             | 0.855                           |
|                      | Edge 2        | 0.085                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.485                  | 0.095                  | 0.107                | 0.093                 | 0.885                             | 0.490                             | 0.485                           |
|                      | Edge 3        | 0.010                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.060                  | 1.190                  | 1.050                | 1.166                 | 1.414                             | 1.316                             | 1.434                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

**12.13. Sum of the SAR for CDMA BC 0 (Antenna D), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.141                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.251                  | 1.201                  | 1.232                | 1.270                 | 1.306                             | 1.251                             | 1.273                           |
|                      | Edge 1        | 0.736                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.740                  | 0.736                  | 0.741                | 0.740                 | 0.755                             | 0.743                             | 0.765                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.008                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.058                  | 1.178                  | 1.048                | 1.163                 | 1.411                             | 1.313                             | 1.431                           |
|                      | Edge 4        | 0.051                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.070                  | 0.451                  | 0.074                | 0.072                 | 0.055                             | 0.451                             | 0.056                           |

**Conclusion:**

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

## 12.14. Sum of the SAR for CDMA BC 1 (Antenna C), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 1.133                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.243                  | 1.193                  | 1.223                | 1.262                 | 1.298                             | 1.243                             | 1.265                           |
|                      | Edge 1        | 0.499                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.503                  | 0.499                  | 0.504                | 0.504                 | 0.519                             | 0.507                             | 0.528                           |
|                      | Edge 2        | 0.094                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.494                  | 0.105                  | 0.116                | 0.103                 | 0.894                             | 0.500                             | 0.494                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

## 12.15. Sum of the SAR for CDMA BC 1 (Antenna D), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.099                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.209                  | 1.159                  | 1.190                | 1.229                 | 1.264                             | 1.210                             | 1.231                           |
|                      | Edge 1        | 0.537                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.541                  | 0.537                  | 0.542                | 0.541                 | 0.556                             | 0.544                             | 0.566                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.057                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.076                  | 0.457                  | 0.080                | 0.077                 | 0.060                             | 0.457                             | 0.062                           |

### Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

## 12.16. Sum of the SAR for CDMA BC 10 (Antenna C), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 0.983                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.093                  | 1.043                  | 1.073                | 1.112                 | 1.148                             | 1.093                             | 1.115                           |
|                      | Edge 1        | 0.631                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.635                  | 0.631                  | 0.636                | 0.635                 | 0.650                             | 0.638                             | 0.660                           |
|                      | Edge 2        | 0.092                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.492                  | 0.102                  | 0.114                | 0.101                 | 0.892                             | 0.498                             | 0.492                           |
|                      | Edge 3        | 0.009                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.059                  | 1.179                  | 1.049                | 1.165                 | 1.413                             | 1.315                             | 1.433                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

## 12.17. Sum of the SAR for CDMA BC 10 (Antenna D), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.118                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.228                  | 1.178                  | 1.209                | 1.247                 | 1.283                             | 1.229                             | 1.250                           |
|                      | Edge 1        | 0.731                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.735                  | 0.731                  | 0.735                | 0.735                 | 0.750                             | 0.738                             | 0.760                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.012                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.062                  | 1.182                  | 1.052                | 1.167                 | 1.416                             | 1.318                             | 1.436                           |
|                      | Edge 4        | 0.059                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.078                  | 0.459                  | 0.082                | 0.079                 | 0.062                             | 0.459                             | 0.064                           |

### Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

**12.18. Sum of the SAR for LTE Band 2 (Antenna C), Wi-Fi and BT**

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

**12.19. Sum of the SAR for LTE Band 2 (Antenna D), Wi-Fi and BT**

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

## 12.20. Sum of the SAR for LTE Band 4 (Antenna C), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 1.110                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.220                  | 1.170                  | 1.200                | 1.239                 | 1.275                             | 1.220                             | 1.242                           |
|                      | Edge 1        | 0.554                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.557                  | 0.554                  | 0.558                | 0.558                 | 0.573                             | 0.561                             | 0.583                           |
|                      | Edge 2        | 0.052                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.452                  | 0.063                  | 0.074                | 0.061                 | 0.852                             | 0.458                             | 0.453                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

## 12.21. Sum of the SAR for LTE Band 4 (Antenna D), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.118                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.228                  | 1.178                  | 1.209                | 1.247                 | 1.283                             | 1.229                             | 1.250                           |
|                      | Edge 1        | 0.599                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.603                  | 0.599                  | 0.604                | 0.603                 | 0.618                             | 0.606                             | 0.628                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.076                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.095                  | 0.476                  | 0.099                | 0.096                 | 0.079                             | 0.476                             | 0.081                           |

### Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

**12.22. Sum of the SAR for LTE Band 5 (Antenna C), Wi-Fi and BT**

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

**12.23. Sum of the SAR for LTE Band 5 (Antenna D), Wi-Fi and BT**

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

**12.24. Sum of the SAR for LTE Band 7 (Antenna C), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 1.048                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.158                  | 1.108                  | 1.138                | 1.177                 | 1.213                             | 1.158                             | 1.180                           |
|                      | Edge 1        | 0.855                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.859                  | 0.855                  | 0.860                | 0.859                 | 0.874                             | 0.862                             | 0.884                           |
|                      | Edge 2        | 0.060                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.460                  | 0.070                  | 0.082                | 0.068                 | 0.860                             | 0.465                             | 0.460                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

**12.25. Sum of the SAR for LTE Band 7 (Antenna D), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.151                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.261                  | 1.211                  | 1.242                | 1.280                 | 1.316                             | 1.261                             | 1.283                           |
|                      | Edge 1        | 0.943                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.947                  | 0.943                  | 0.948                | 0.947                 | 0.962                             | 0.950                             | 0.972                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.047                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.066                  | 0.447                  | 0.070                | 0.068                 | 0.051                             | 0.447                             | 0.053                           |

**Conclusion:**

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

**12.26. Sum of the SAR for LTE Band 12 (Antenna C), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 0.990                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.100                  | 1.050                  | 1.080                | 1.119                 | 1.155                             | 1.100                             | 1.122                           |
|                      | Edge 1        | 0.771                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.775                  | 0.771                  | 0.776                | 0.775                 | 0.790                             | 0.778                             | 0.800                           |
|                      | Edge 2        | 0.080                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.480                  | 0.090                  | 0.102                | 0.089                 | 0.880                             | 0.486                             | 0.480                           |
|                      | Edge 3        | 0.009                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.059                  | 1.179                  | 1.049                | 1.165                 | 1.413                             | 1.315                             | 1.433                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

**12.27. Sum of the SAR for LTE Band 12 (Antenna D), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.190                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.300                  | 1.250                  | 1.280                | 1.319                 | 1.355                             | 1.300                             | 1.322                           |
|                      | Edge 1        | 0.921                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.925                  | 0.921                  | 0.926                | 0.925                 | 0.940                             | 0.928                             | 0.950                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.021                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.071                  | 1.191                  | 1.061                | 1.177                 | 1.425                             | 1.327                             | 1.445                           |
|                      | Edge 4        | 0.092                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.111                  | 0.492                  | 0.115                | 0.112                 | 0.096                             | 0.492                             | 0.097                           |

**Conclusion:**

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

**12.28. Sum of the SAR for LTE Band 13 (Antenna C), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 0.959                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.069                  | 1.019                  | 1.049                | 1.088                 | 1.124                             | 1.069                             | 1.091                           |
|                      | Edge 1        | 0.721                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.725                  | 0.721                  | 0.726                | 0.725                 | 0.740                             | 0.728                             | 0.750                           |
|                      | Edge 2        | 0.096                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.496                  | 0.107                  | 0.118                | 0.105                 | 0.896                             | 0.502                             | 0.496                           |
|                      | Edge 3        | 0.017                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.067                  | 1.187                  | 1.057                | 1.172                 | 1.421                             | 1.323                             | 1.441                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

**12.29. Sum of the SAR for LTE Band 13 (Antenna D), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.100                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.210                  | 1.160                  | 1.190                | 1.229                 | 1.265                             | 1.210                             | 1.232                           |
|                      | Edge 1        | 0.921                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.925                  | 0.921                  | 0.926                | 0.925                 | 0.940                             | 0.928                             | 0.950                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.019                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.069                  | 1.189                  | 1.059                | 1.175                 | 1.423                             | 1.325                             | 1.443                           |
|                      | Edge 4        | 0.063                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.082                  | 0.463                  | 0.086                | 0.083                 | 0.067                             | 0.463                             | 0.068                           |

**Conclusion:**

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

**12.30. Sum of the SAR for LTE Band 17 (Antenna C), Wi-Fi and BT**

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

**12.31. Sum of the SAR for LTE Band 17 (Antenna D), Wi-Fi and BT**

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

**12.32. Sum of the SAR for LTE Band 25 (Antenna C), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 1.021                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.131                  | 1.081                  | 1.111                | 1.150                 | 1.186                             | 1.131                             | 1.153                           |
|                      | Edge 1        | 0.484                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.488                  | 0.484                  | 0.489                | 0.489                 | 0.504                             | 0.492                             | 0.513                           |
|                      | Edge 2        | 0.093                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.493                  | 0.104                  | 0.115                | 0.102                 | 0.893                             | 0.499                             | 0.493                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

**12.33. Sum of the SAR for LTE Band 25 (Antenna D), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.058                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.168                  | 1.118                  | 1.148                | 1.187                 | 1.223                             | 1.168                             | 1.190                           |
|                      | Edge 1        | 0.523                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.527                  | 0.523                  | 0.528                | 0.527                 | 0.542                             | 0.530                             | 0.552                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.051                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.070                  | 0.451                  | 0.074                | 0.071                 | 0.054                             | 0.451                             | 0.056                           |

**Conclusion:**

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

## 12.34. Sum of the SAR for LTE Band 26 (Antenna C), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 0.921                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.031                  | 0.981                  | 1.011                | 1.050                 | 1.086                             | 1.031                             | 1.053                           |
|                      | Edge 1        | 0.701                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.704                  | 0.701                  | 0.705                | 0.705                 | 0.720                             | 0.708                             | 0.730                           |
|                      | Edge 2        | 0.114                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.514                  | 0.125                  | 0.136                | 0.123                 | 0.914                             | 0.520                             | 0.514                           |
|                      | Edge 3        | 0.016                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.066                  | 1.186                  | 1.056                | 1.172                 | 1.420                             | 1.322                             | 1.440                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

## 12.35. Sum of the SAR for LTE Band 26 (Antenna D), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A) + (B)              | (A) + (C)              | (A) + (D)            | (A) + (H)             | (A) + (E) + (I)                   | (A) + (F) + (I)                   | (A) + (G) + (I)                 |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 0.933                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.043                  | 0.993                  | 1.023                | 1.062                 | 1.098                             | 1.043                             | 1.065                           |
|                      | Edge 1        | 0.591                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.594                  | 0.591                  | 0.595                | 0.595                 | 0.610                             | 0.598                             | 0.620                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.017                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.067                  | 1.187                  | 1.057                | 1.173                 | 1.421                             | 1.323                             | 1.441                           |
|                      | Edge 4        | 0.123                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.142                  | 0.523                  | 0.146                | 0.143                 | 0.126                             | 0.523                             | 0.128                           |

### Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

**12.36. Sum of the SAR for LTE Band 27 (Antenna C), Wi-Fi and BT**

SAR for LTE Band 27 (Frequency range: 814 – 824 MHz) is covered by LTE Band 26 (Frequency range: 814 – 849 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

**12.37. Sum of the SAR for LTE Band 27 (Antenna D), Wi-Fi and BT**

SAR for LTE Band 27 (Frequency range: 814 – 824 MHz) is covered by LTE Band 26 (Frequency range: 814 – 849 MHz) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth.

**12.38. Sum of the SAR for LTE Band 30 (Antenna C), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | Σ 1-g SAR (W/g)        |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A)+(B)                | (A)+(C)                | (A)+(D)              | (A)+(H)               | (A)+(E)+(I)                       | (A)+(F)+(I)                       | (A)+(G)+(I)                     |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 1.130                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.240                  | 1.190                  | 1.220                | 1.259                 | 1.295                             | 1.240                             | 1.262                           |
|                      | Edge 1        | 0.811                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.815                  | 0.811                  | 0.816                | 0.815                 | 0.830                             | 0.818                             | 0.840                           |
|                      | Edge 2        | 0.108                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.508                  | 0.118                  | 0.130                | 0.117                 | 0.908                             | 0.514                             | 0.508                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

**12.39. Sum of the SAR for LTE Band 30 (Antenna D), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | Σ 1-g SAR (W/g)        |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A)+(B)                | (A)+(C)                | (A)+(D)              | (A)+(H)               | (A)+(E)+(I)                       | (A)+(F)+(I)                       | (A)+(G)+(I)                     |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.110                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.220                  | 1.170                  | 1.200                | 1.239                 | 1.275                             | 1.220                             | 1.242                           |
|                      | Edge 1        | 0.842                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.846                  | 0.842                  | 0.847                | 0.846                 | 0.861                             | 0.849                             | 0.871                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.078                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.097                  | 0.478                  | 0.101                | 0.098                 | 0.082                             | 0.478                             | 0.083                           |

**Conclusion:**

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

**12.40. Sum of the SAR for LTE Band 41 (Antenna C), Wi-Fi and BT**

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A)+(B)                | (A)+(C)                | (A)+(D)              | (A)+(H)               | (A)+(E)+(I)                       | (A)+(F)+(I)                       | (A)+(G)+(I)                     |
|                      |               | WWAN Ant. C           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. C+Ant. A | WWAN+DTS Ant. C+Ant. B | WWAN+DTS Ant. C+MIMO | WWAN+BT Ant. C+P-high | WWAN+U-NII+BT Ant. C+Ant. A+P-low | WWAN+U-NII+BT Ant. C+Ant. B+P-low | WWAN+U-NII+BT Ant. C+MIMO+P-low |
| Body                 | Rear          | 1.160                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.270                  | 1.220                  | 1.250                | 1.289                 | 1.325                             | 1.270                             | 1.292                           |
|                      | Edge 1        | 0.786                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.790                  | 0.786                  | 0.791                | 0.791                 | 0.806                             | 0.794                             | 0.816                           |
|                      | Edge 2        | 0.051                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.451                  | 0.061                  | 0.073                | 0.059                 | 0.851                             | 0.456                             | 0.451                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.400                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.419                  | 0.800                  | 0.423                | 0.420                 | 0.404                             | 0.800                             | 0.405                           |

## 12.41. Sum of the SAR for LTE Band 41 (Antenna D), Wi-Fi and BT

| RFExposure Condition | Test Position | Standalone SAR (W/kg) |            |            |          |              |              |            |           |          | $\Sigma$ 1-g SAR (W/g) |                        |                      |                       |                                   |                                   |                                 |
|----------------------|---------------|-----------------------|------------|------------|----------|--------------|--------------|------------|-----------|----------|------------------------|------------------------|----------------------|-----------------------|-----------------------------------|-----------------------------------|---------------------------------|
|                      |               | (A)                   | (B)        | (C)        | (D)      | (E)          | (F)          | (G)        | (H)       | (I)      | (A)+(B)                | (A)+(C)                | (A)+(D)              | (A)+(H)               | (A)+(E)+(I)                       | (A)+(F)+(I)                       | (A)+(G)+(I)                     |
|                      |               | WWAN Ant. D           | DTS Ant. A | DTS Ant. B | DTS MIMO | U-NII Ant. A | U-NII Ant. B | U-NII MIMO | BT P-high | BT P-low | WWAN+DTS Ant. D+Ant. A | WWAN+DTS Ant. D+Ant. B | WWAN+DTS Ant. D+MIMO | WWAN+BT Ant. D+P-high | WWAN+U-NII+BT Ant. D+Ant. A+P-low | WWAN+U-NII+BT Ant. D+Ant. B+P-low | WWAN+U-NII+BT Ant. D+MIMO+P-low |
| Body                 | Rear          | 1.170                 | 0.110      | 0.060      | 0.090    | 0.144        | 0.089        | 0.111      | 0.129     | 0.021    | 1.280                  | 1.230                  | 1.260                | 1.299                 | 1.335                             | 1.280                             | 1.302                           |
|                      | Edge 1        | 0.915                 | 0.004      | 0.000      | 0.005    | 0.019        | 0.007        | 0.029      | 0.004     | 0.000    | 0.919                  | 0.915                  | 0.920                | 0.919                 | 0.934                             | 0.922                             | 0.944                           |
|                      | Edge 2        | 0.400                 | 0.400      | 0.010      | 0.022    | 0.400        | 0.006        | 0.000      | 0.009     | 0.400    | 0.800                  | 0.410                  | 0.422                | 0.409                 | 1.200                             | 0.806                             | 0.800                           |
|                      | Edge 3        | 0.000                 | 1.050      | 1.170      | 1.040    | 1.170        | 1.072        | 1.190      | 1.156     | 0.234    | 1.050                  | 1.170                  | 1.040                | 1.156                 | 1.404                             | 1.306                             | 1.424                           |
|                      | Edge 4        | 0.059                 | 0.019      | 0.400      | 0.023    | 0.004        | 0.400        | 0.005      | 0.020     | 0.000    | 0.078                  | 0.459                  | 0.082                | 0.079                 | 0.063                             | 0.459                             | 0.064                           |

### Conclusion:

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

**12.42. Sum of the SAR for LTE-2CA Band 7 (Antenna C), Wi-Fi and BT**

| RF Exposure Condition | Test Position | Standalone SAR (W/kg) |               |               |             |                 |                 |               |              |             | $\Sigma 10\text{-g SAR (W/g)}$ |                               |                             |                              |                                              |                                              |                                            |
|-----------------------|---------------|-----------------------|---------------|---------------|-------------|-----------------|-----------------|---------------|--------------|-------------|--------------------------------|-------------------------------|-----------------------------|------------------------------|----------------------------------------------|----------------------------------------------|--------------------------------------------|
|                       |               | (A)                   | (B)           | (C)           | (D)         | (E)             | (F)             | (G)           | (H)          | (I)         | (A) + (B)                      | (A) + (C)                     | (A) + (D)                   | (A) + (H)                    | (A) + (E) + (I)                              | (A) + (F) + (I)                              | (A) + (G) + (I)                            |
|                       |               | WWAN<br>Ant. C        | DTS<br>Ant. A | DTS<br>Ant. B | DTS<br>MIMO | U-NII<br>Ant. A | U-NII<br>Ant. B | U-NII<br>MIMO | BT<br>P-high | BT<br>P-low | WWAN + DTS<br>Ant. C + Ant. A  | WWAN + DTS<br>Ant. C + Ant. B | WWAN + DTS<br>Ant. C + MIMO | WWAN + BT<br>Ant. C + P-high | WWAN + U-NII + BT<br>Ant. C + Ant. A + P-low | WWAN + U-NII + BT<br>Ant. C + Ant. B + P-low | WWAN + U-NII + BT<br>Ant. C + MIMO + P-low |
| Body                  | Rear          | 0.669                 | 0.110         | 0.063         | 0.090       | 0.144           | 0.089           | 0.111         | 0.129        | 0.021       | 0.779                          | 0.732                         | 0.759                       | 0.798                        | 0.834                                        | 0.779                                        | 0.801                                      |

**12.43. Sum of the SAR for LTE-2CA Band 7 (Antenna D), Wi-Fi and BT**

| RF Exposure Condition | Test Position | Standalone SAR (W/kg) |               |               |             |                 |                 |               |              |             | $\Sigma 10\text{-g SAR (W/g)}$ |                               |                             |                              |                                              |                                              |                                            |
|-----------------------|---------------|-----------------------|---------------|---------------|-------------|-----------------|-----------------|---------------|--------------|-------------|--------------------------------|-------------------------------|-----------------------------|------------------------------|----------------------------------------------|----------------------------------------------|--------------------------------------------|
|                       |               | (A)                   | (B)           | (C)           | (D)         | (E)             | (F)             | (G)           | (H)          | (I)         | (A) + (B)                      | (A) + (C)                     | (A) + (D)                   | (A) + (H)                    | (A) + (E) + (I)                              | (A) + (F) + (I)                              | (A) + (G) + (I)                            |
|                       |               | WWAN<br>Ant. D        | DTS<br>Ant. A | DTS<br>Ant. B | DTS<br>MIMO | U-NII<br>Ant. A | U-NII<br>Ant. B | U-NII<br>MIMO | BT<br>P-high | BT<br>P-low | WWAN + DTS<br>Ant. D + Ant. A  | WWAN + DTS<br>Ant. D + Ant. B | WWAN + DTS<br>Ant. D + MIMO | WWAN + BT<br>Ant. D + P-high | WWAN + U-NII + BT<br>Ant. D + Ant. A + P-low | WWAN + U-NII + BT<br>Ant. D + Ant. B + P-low | WWAN + U-NII + BT<br>Ant. D + MIMO + P-low |
| Body                  | Rear          | 0.651                 | 0.110         | 0.063         | 0.090       | 0.144           | 0.089           | 0.111         | 0.129        | 0.021       | 0.761                          | 0.714                         | 0.741                       | 0.780                        | 0.816                                        | 0.761                                        | 0.783                                      |

**12.44. Sum of the SAR for LTE-2CA Band 41 (Antenna C), Wi-Fi and BT**

| RF Exposure Condition | Test Position | Standalone SAR (W/kg) |               |               |             |                 |                 |               |              |             | $\Sigma 10\text{-g SAR (W/g)}$ |                               |                             |                              |                                              |                                              |                                            |
|-----------------------|---------------|-----------------------|---------------|---------------|-------------|-----------------|-----------------|---------------|--------------|-------------|--------------------------------|-------------------------------|-----------------------------|------------------------------|----------------------------------------------|----------------------------------------------|--------------------------------------------|
|                       |               | (A)                   | (B)           | (C)           | (D)         | (E)             | (F)             | (G)           | (H)          | (I)         | (A) + (B)                      | (A) + (C)                     | (A) + (D)                   | (A) + (H)                    | (A) + (E) + (I)                              | (A) + (F) + (I)                              | (A) + (G) + (I)                            |
|                       |               | WWAN<br>Ant. C        | DTS<br>Ant. A | DTS<br>Ant. B | DTS<br>MIMO | U-NII<br>Ant. A | U-NII<br>Ant. B | U-NII<br>MIMO | BT<br>P-high | BT<br>P-low | WWAN + DTS<br>Ant. C + Ant. A  | WWAN + DTS<br>Ant. C + Ant. B | WWAN + DTS<br>Ant. C + MIMO | WWAN + BT<br>Ant. C + P-high | WWAN + U-NII + BT<br>Ant. C + Ant. A + P-low | WWAN + U-NII + BT<br>Ant. C + Ant. B + P-low | WWAN + U-NII + BT<br>Ant. C + MIMO + P-low |
| Body                  | Rear          | 0.725                 | 0.110         | 0.063         | 0.090       | 0.144           | 0.089           | 0.111         | 0.129        | 0.021       | 0.835                          | 0.788                         | 0.815                       | 0.854                        | 0.890                                        | 0.835                                        | 0.857                                      |

**12.45. Sum of the SAR for LTE-2CA Band 41 (Antenna D), Wi-Fi and BT**

| RF Exposure Condition | Test Position | Standalone SAR (W/kg) |               |               |             |                 |                 |               |              |             | $\Sigma 10\text{-g SAR (W/g)}$ |                               |                             |                              |                                              |                                              |                                            |
|-----------------------|---------------|-----------------------|---------------|---------------|-------------|-----------------|-----------------|---------------|--------------|-------------|--------------------------------|-------------------------------|-----------------------------|------------------------------|----------------------------------------------|----------------------------------------------|--------------------------------------------|
|                       |               | (A)                   | (B)           | (C)           | (D)         | (E)             | (F)             | (G)           | (H)          | (I)         | (A) + (B)                      | (A) + (C)                     | (A) + (D)                   | (A) + (H)                    | (A) + (E) + (I)                              | (A) + (F) + (I)                              | (A) + (G) + (I)                            |
|                       |               | WWAN<br>Ant. D        | DTS<br>Ant. A | DTS<br>Ant. B | DTS<br>MIMO | U-NII<br>Ant. A | U-NII<br>Ant. B | U-NII<br>MIMO | BT<br>P-high | BT<br>P-low | WWAN + DTS<br>Ant. D + Ant. A  | WWAN + DTS<br>Ant. D + Ant. B | WWAN + DTS<br>Ant. D + MIMO | WWAN + BT<br>Ant. D + P-high | WWAN + U-NII + BT<br>Ant. D + Ant. A + P-low | WWAN + U-NII + BT<br>Ant. D + Ant. B + P-low | WWAN + U-NII + BT<br>Ant. D + MIMO + P-low |
| Body                  | Rear          | 1.060                 | 0.110         | 0.063         | 0.090       | 0.144           | 0.089           | 0.111         | 0.129        | 0.021       | 1.170                          | 1.123                         | 1.150                       | 1.189                        | 1.225                                        | 1.170                                        | 1.192                                      |

**Conclusion:**

Simultaneous transmission SAR measurement (Volume Scan) is not required because the either sum of the 1-g SAR is < 1.6 W/kg or the SPLSR is < 0.04 for all circumstances that require SPLSR calculation.

## **Appendixes**

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

**16U23816-S1V1 SAR\_App A Setup Photos**

**16U23816-S1V1 SAR\_App B System Check Plots**

**16U23816-S1V1 SAR\_App C Highest Test Plots**

**16U23816-S1V1 SAR\_App D Tissue Ingredients**

**16U23816-S1V1 SAR\_App E Probe Cal. Certificates**

**16U23816-S1V1 SAR\_App F Dipole Cal. Certificates**

**END OF REPORT**